Public Utilities

Volume 64 No. 12 December 3, 1959

TIGHT MONEY AND UTILITY REGULATION

By Fergus J. McDiarmid

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Electric Subsidy—for Whom?

By Dean H. Mitchell

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Management's Multiple Responsibilities

By Alfred J. Barran

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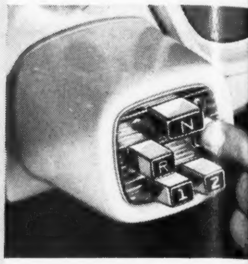

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Articles

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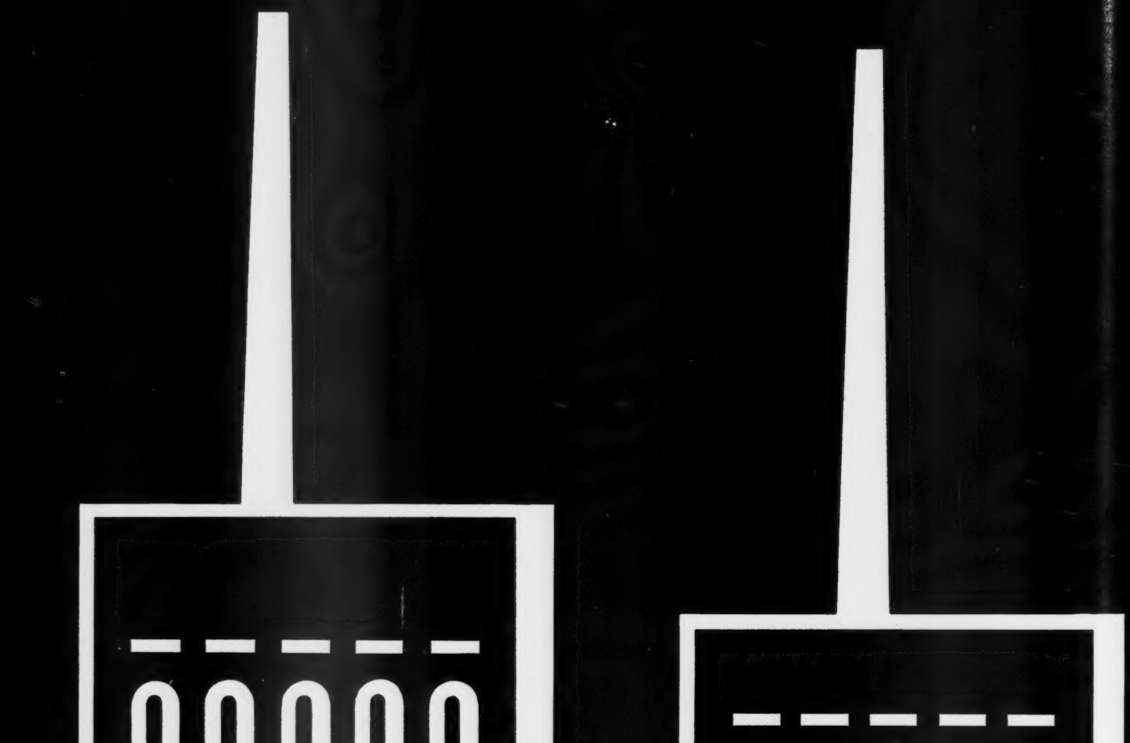
Gas Tempering: **Report No. 3**

Electric Utilities Cu Costs WitG



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Over-All Plant Gas Tempering

...Smaller Buildings Per KW
...Less Structural Steel
...Lighter Foundations
...Shorter Steam Leads

storically, the size of steam generating equipment s been based on two main considerations: space eded to burn fuel, and surface required to cool ses before they reach the convection surface. iler designers have long known that to cool the ses, they had to use furnaces much larger than quired if complete combustion of the fuel were e only consideration. Now with the proved-in-eration principle of Gas Tempering, the surface quirements to cool furnace exit gases are sub-ntially less.

hat is Gas Tempering? ... it is the reintroduction cool flue gases near the furnace outlet to control the temperature of the furnace gases entering the convection surface.

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... It provides safe superheater tube temperature by positive gas temperature control; it protects superheater during startup and under all operating conditions.

... It makes it safer to design for economies offered by operation at steam temperatures of 1050 F and above.

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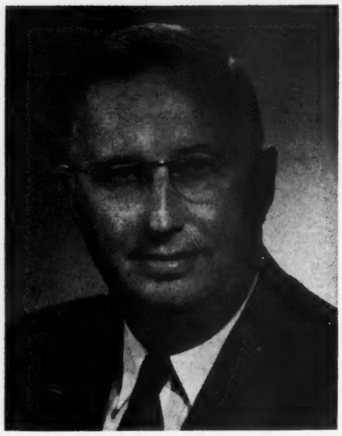
Pages with the Editors

Now and then an enterprising merchant who wants to underscore a bargain will direct attention to a time comparison of prices. If it is a fact that the price of the product advertised is the same or even somewhat less than it was several years before, that is usually pretty good prima facie evidence of a bargain, without going any farther.

WHY is this so? It is so because the public has grown to take inflation (whether creeping or galloping) for granted. It is to be assumed that prices will continue to rise indefinitely. And, contrary to the law of gravity, what goes up does not necessarily come down—ever—in the field of price economics. But is this mute acceptance of the inevitability of inflation not an insidious and dangerous thing in itself? For once inflation is accepted as inevitable, the relative pace over any given period becomes seemingly less important. It becomes merely a detail in a general pattern, so to speak.

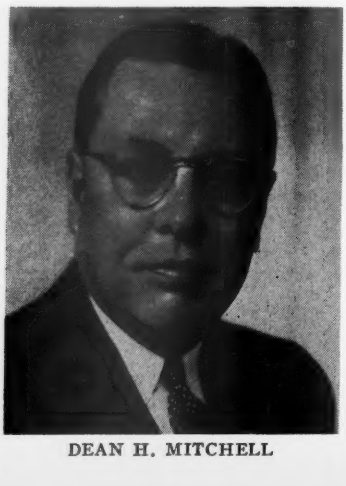
SOMETIMES a price comparison can serve as a real shocker to the public conscience—such as the reprinting of a very old newspaper advertisement, price list, menu, etc., serves to remind us how far we have come from the good old days of the five-cent cigar. It can be argued, of course,



FERGUS J. MCDIARMID

that we have built a good many positive values into the increased prices—factors which may be counted as economic benefits: higher wages, social security, and other welfare items, to say nothing of contributions for the skyscraping taxes and the cost of war, hot or cold.

RECENT studies have shown that government measures which might have curbed inflation in steel were not quite the ones which might have been appropriate in machinery. A wage-push inflation is not very sensitive to a mere shifting of interest rates by the money authorities. Tight money, on the other hand, may choke back excessive demand when the inflation stems from that source.



DEAN H. MITCHELL

YET how long can the American dollar stand this constant and increasing erosion of purchasing power? What will happen in the field of utility regulation, if the constant succession of rate increases falls so far behind increasing operating costs as to forfeit investor confidence? The leading article in this issue explores some disquieting developments along these lines in recent months. There are signs that the label "big spender" is losing its appeal. Notwithstanding all the American dollars thrown around the world on

foreign aid, we see signs of distrust of our once impregnable dollar in these very same foreign countries. Our diminishing gold hoard is causing concern about our fiscal policy.

The author of this leading article on "Tight Money and Utility Regulation" is Fergus J. McDiarmid, vice president of investments of The Lincoln National Life Insurance Company, Fort Wayne, Indiana. He is a well-known author on utility investments. Originally from Canada and a graduate of the University of Toronto, Mr. McDiarmid has made a career of actuarial mathematics and public utility securities. He started to work for The Lincoln National Life Insurance Company three days after graduating in 1928, and is still associated with that company after almost three decades. What this veteran institutional investor sees ahead is worthy of careful consideration by all utility people and their regulators.

* * * *

Dean H. Mitchell, president of Northern Indiana Public Service Company, has come up with a modern story about feeding a kitten until it grows into a man-eating tiger. His reference is to subsidized co-operative operations and their impact on investor-owned electric utility companies. Our national concern for supplying the farmer with necessary utility services is now giving way to concern for disposing of an expanding creation of government subsidy. As tax-paying business leaves the rural utility service field, the cost of artificial subsidy stands to increase. And this raises the question of who will eventually be left to pay the bill for federal upkeep and national defense.

Dean H. Mitchell has spent more than thirty-four years in the utility field—twenty-one of them as president of Northern Indiana Public Service Company, which is in both the gas and electric utility business. He is a former (1956) president of the American Gas Association, and in 1951 was appointed by the Secretary of the Interior to the National Gas Industry Advisory Council. Mr. Mitchell is also past president of the Indiana State Chamber of Commerce and a director of the United States Chamber of Commerce. He has also been very active in charitable and religious work. He was born in Erie, Pennsylvania, and moved to Illinois as a child. He is a graduate of the University of Chicago and attended Northwestern University Law School.

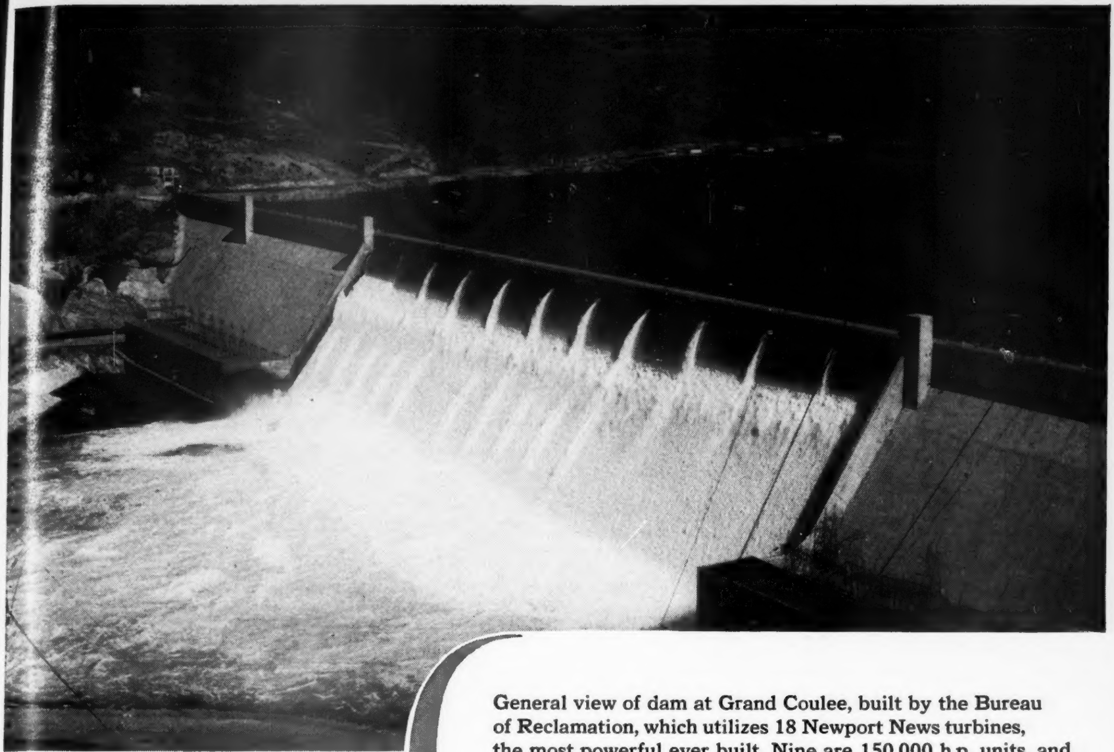
* * * *

Alfred J. Barran, president of the General Telephone Company of the Northwest, whose article on the triple responsibility of public utility management begins on page 916, is a native of Ohio and a graduate of Denison University in that state. During World War II he served in the Navy as Commander of an escort ship in the invasions of Normandy, Okinawa, and the occupation of Korea and China. He holds a Lieutenant Commander's commission in the Naval Reserve. He started in telephone work with the Pacific Telephone & Telegraph Company and later joined the Associated Telephone Company, Ltd., in 1946, which has since become General Telephone Company of California. Earlier this year he was promoted to the presidency of the affiliated General Telephone Company of the Northwest.

ALFRED J. BARRAN

The next number of this magazine will be out December 17th.

The Editors



Coming IN THE NEXT ISSUE

(December 17, 1959, issue)

☆

LONG-RANGE PLANNING FOR PUBLIC UTILITIES

Paul E. Weiland, director of utilities, Ohio Public Utilities Commission, examines the present inflation pattern and the growing cost of capital in relation to public utility rates and rate making. Mr. Weiland's article notes that the future demands that the rate-making process give consideration to the requirements of the future and he observes that a new approach to preparing and presenting rate applications may be called for.

PUBLIC UTILITY FRANCHISES—ARE THEY NECESSARY?

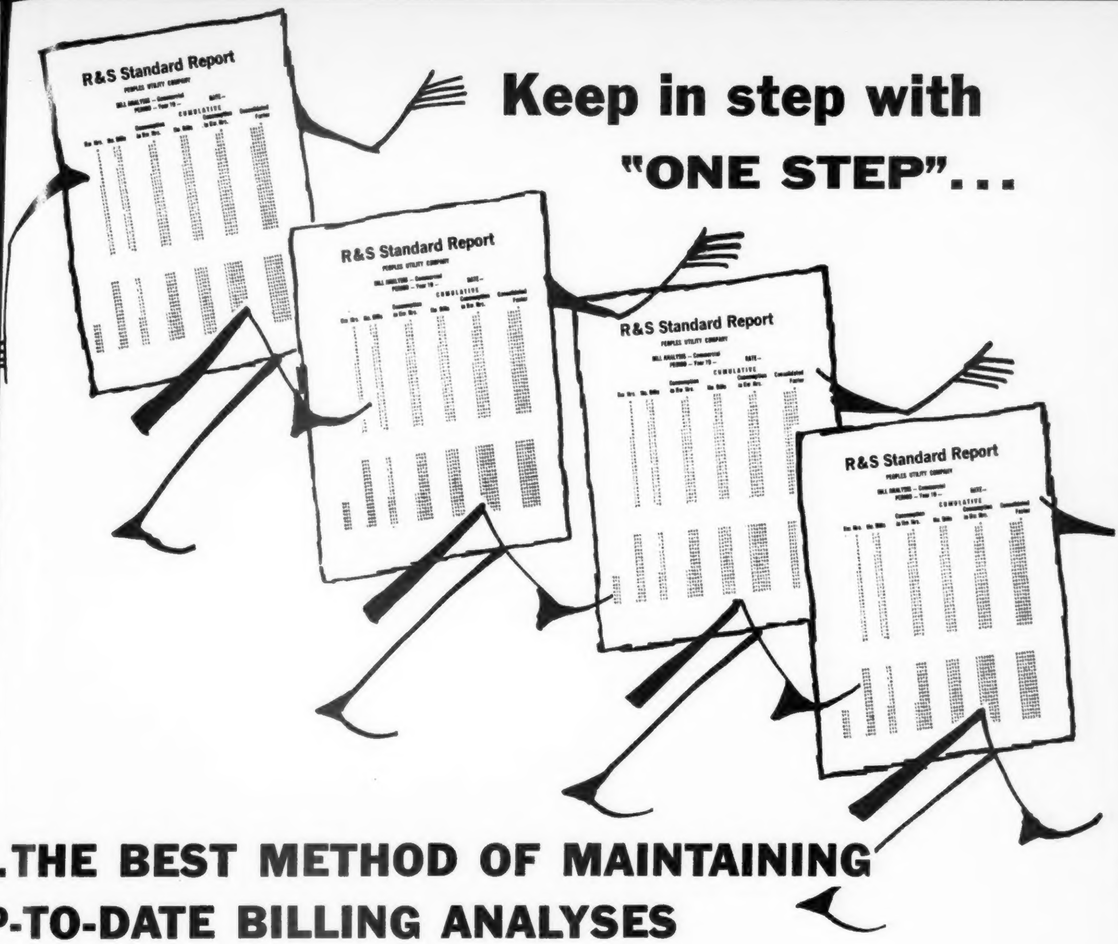
The subject of the public utility franchise is investigated by Thomas C. Campbell, Jr., professor of economics at West Virginia University. What is a franchise? Who grants and regulates them? What are the rights of parties upon their expiration? These and other basic questions are answered by Professor Campbell's article. The implications of a recent West Virginia court decision, which would seem to indicate that the franchise has lost much of its significance, is commented upon in Professor Campbell's article.

WHY NOT PLUMP FOR REGULATION ITSELF?

To the public the process of rate regulation is quite generally regarded as something of a mystery. Comparatively few people knew anything about regulation before the end of World War II and the occasional sessions of pillow fighting that have characterized some rate hearings have led many to suspect that the utilities and the commissioners are hereditary enemies. James H. Collins, free-lance writer of Washington, D. C., suggests in this article that it might be a good idea if a bit of "plumping" would be done on behalf of regulation itself. He suggests that a new type of work for public relations men might be to inform the public of this distinctly American way of conducting utility business.

★

Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***



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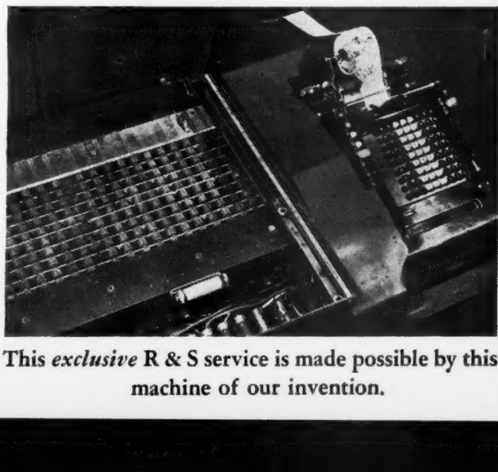


Remarkable Remarks

"There never was in the world two opinions alike."
—Montaigne

Robert E. Wilson
Chairman of the board, Standard Oil Company (Indiana).

"While some reasonable unemployment compensation is justified, it is, to my view, unthinkable that a man should be paid as much, or nearly as much, for *not working* as he is for working."

John J. Allen, Jr.
Under Secretary of Commerce for Transportation.

"If the railroad industry is to grow and serve our future economy, it must be able to develop a policy of service and pricing that will serve the transport needs of the public, not hampered by unreasonable public policies."

Excerpt from the Guaranty Survey, published by Guaranty Trust Company, New York.

"Production, and hence employment, depends upon the demands of buyers, and in an economy of individual choice, government cannot directly regulate the behavior of the millions of consumers and investors who buy the products of industry."

T. J. Obal
Senior economist, Ford Motor Company.

"Continued business expansion in 1960 will depend primarily on further increases in business spending on capital goods and consumer spending on durable goods. Rising income from these areas will provide further strength in consumer spending for services and nondurable goods."

J. Paul Getty
Industrialist.

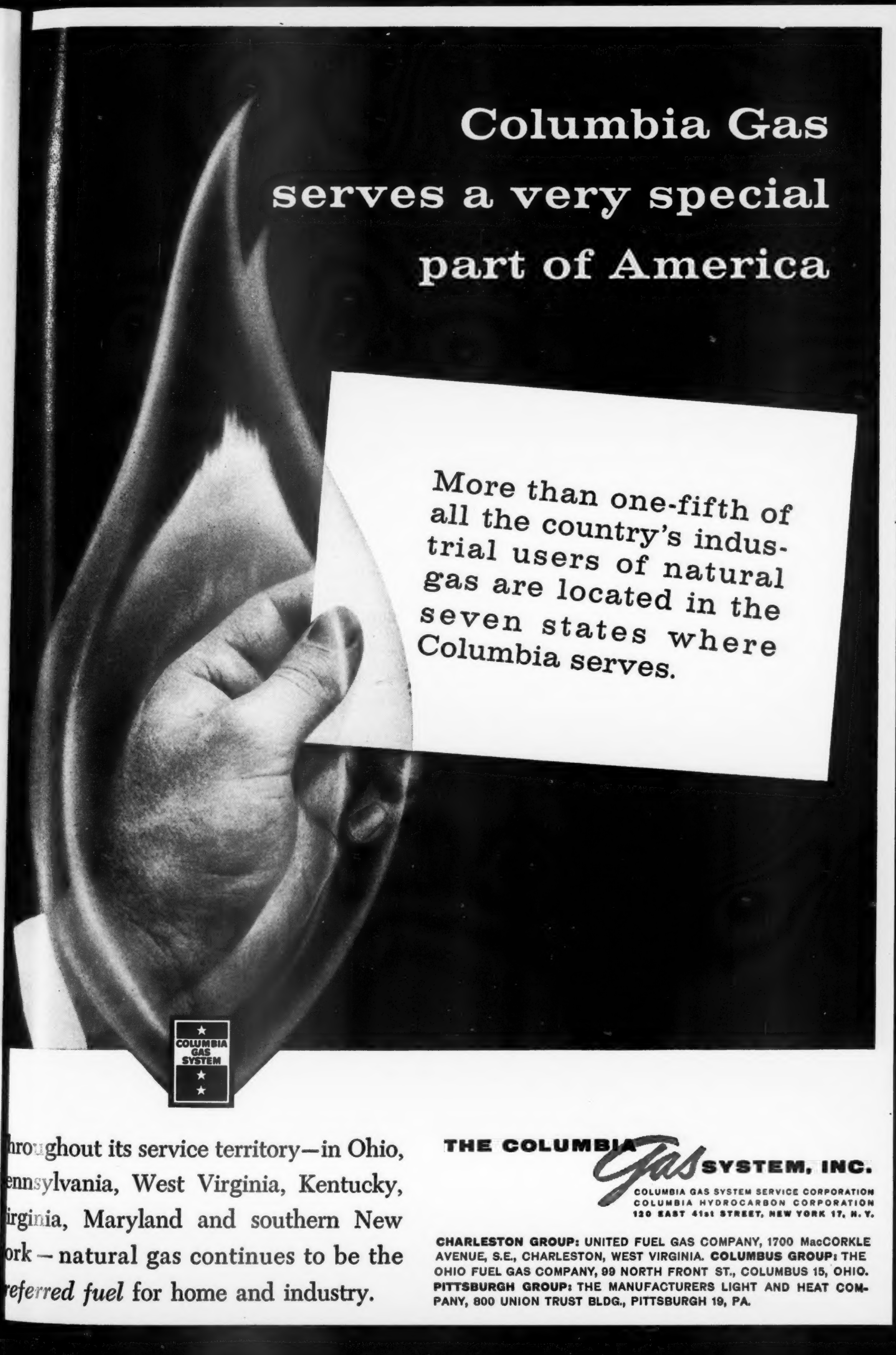
"Nothing wrecks an organization's morale faster than the familiar type of executive who comes into the office late, takes a three-hour lunch, then leaves early for a golf-course 'business conference.' Even the office boy knows that business transacted in three hours over a lunch table can be handled in fifteen minutes in the office."

S. Sloan Colt
Chairman, Port of New York Authority.

"Now, it would be grossly unrealistic to expect Europe's revived industry not to attempt to re-enter the rich Latin American market or, for that matter, any of the other major markets. By deploring the return to a more competitive market we are in effect weakening the economic fabric of the free world and impeding the efforts of our friends to stand on their own economic feet. Let us, therefore, welcome rather than reject all fair competition in the world market place."

Editorial Statement
The Wall Street Journal.

"There is only one right way to cut taxes, and that is to reduce government spending to the point where lower taxes would not unbalance the budget. But the government is not moving in that direction; it is moving in the direction of ever-increasing spending, spending, not only for essentials like defense but also for a whole flock of activities the government has no business engaging in anyway. That being the case, our terrible taxes must remain; in fact, they should be increased."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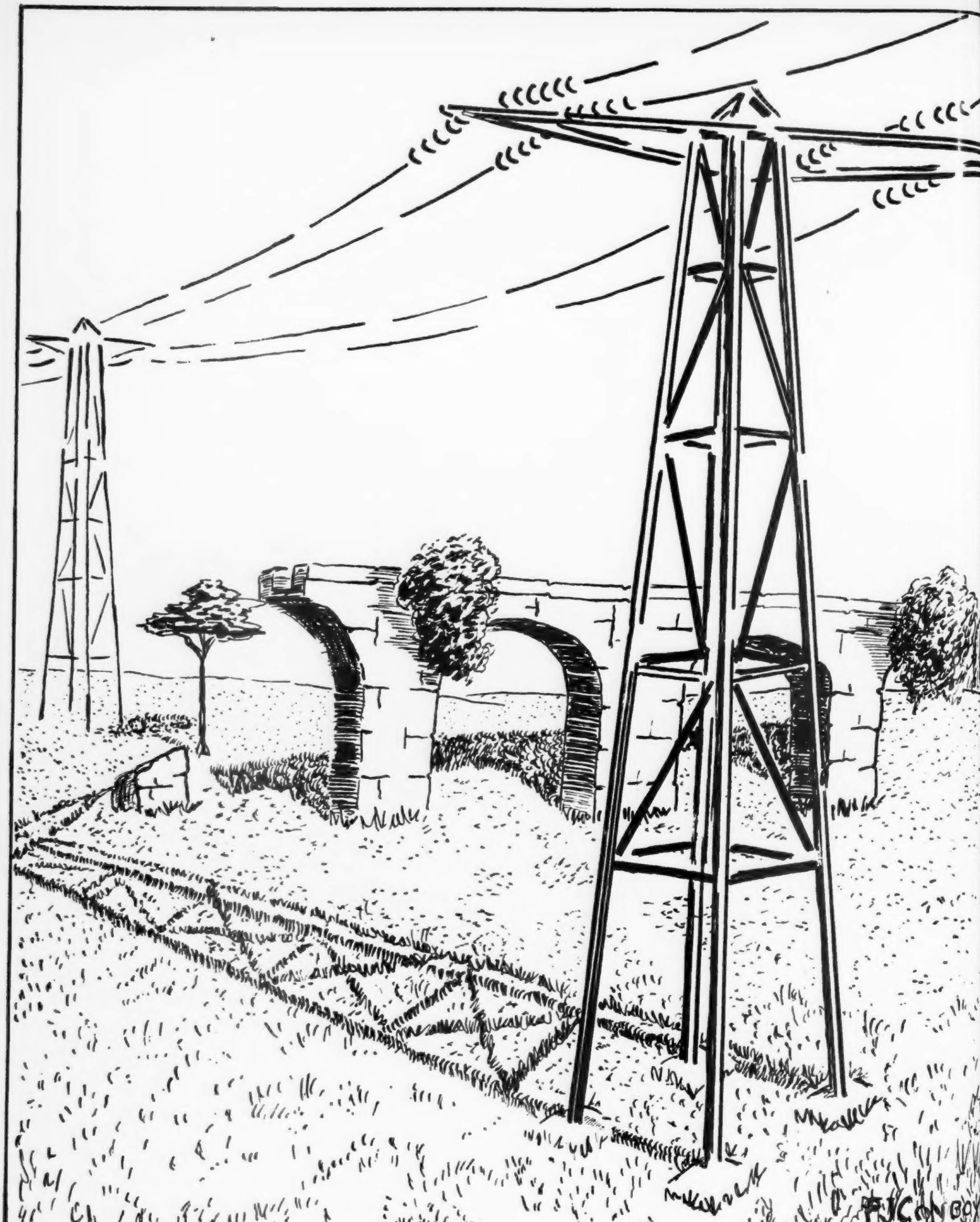
UTILITIES
A·l·m·a·n·a·c·k

DECEMBER

Thursday—3	Friday—4	Saturday—5	Sunday—6
Southern Gas Association, Transmission Section, begins round-table discussion, Dallas, Tex.	*National Warm Air and Air Conditioning Association ends four-day convention, St. Louis, Mo.*	*Interstate Oil Compact Commission ends three-day annual meeting, Philadelphia, Pa.*	*National Retail Merchants Association will hold annual convention, New York, N. Y. Jan. 10-14, 1960.* ***Advance notice.***
Monday—7	**Tuesday—8**	**Wednesday—9**	**Thursday—10**
Pennsylvania Electric Association, Systems Operation Committee, will hold meeting, Philadelphia, Pa. Jan. 21-26, 1960. ***Advance notice.***	*National Conference on Application of Electrical Insulation begins, Washington, D. C.*	*American Standards Association begins annual meeting and standards council, New York, N. Y.*	*Oklahoma Utilities Association, Accounting Section, will hold meeting, Tulsa, Okla. Jan. 22, 1960.* ***Advance notice.***
Friday—11	**Saturday—12**	**Sunday—13**	**Monday—14**
National Association of Broadcasters will hold meeting of board of directors, Palm Springs, Cal. Jan. 24-29, 1960. ***Advance notice.***	*Association of National Advertisers will hold advertising research workshop, New York, N. Y. Jan. 27, 1960.* ***Advance notice.***	*American Institute of Electrical Engineers will hold winter general meeting, New York, N. Y. Jan. 31-Feb. 5, 1960.* ***Advance notice.***	*Industrial Electrification Council will hold fourth biennial national electric heating conference, Cincinnati, Ohio. Feb. 1-4, 1960.* ***Advance notice.***
Tuesday—15	**Wednesday—16**	**Thursday—17**	**Friday—18**
American Society for Testing Materials will hold committee week, Chicago, Ill. Feb. 1-5, 1960. ***Advance notice.***	*American Water Works Association, Indiana Section, will hold annual meeting, Indianapolis, Ind. Feb. 3-5, 1960.* ***Advance notice.***	*Minnesota Telephone Association will hold annual convention, St. Paul, Minn. Feb. 7-10, 1960.* ***Advance notice.***	*Missouri Valley Electric Association will hold industrial and commercial sales conference, Kansas City, Mo. Feb. 8, 9, 1960.* ***Advance notice.***



Original drawing by F. J. Conboy

Twentieth Century Power—BC Aqueduct

A singular study in contrasts—of civilizations and methods—is depicted in this crossing of an ancient aqueduct near the old Appian Way near Rome, Italy, and the high-voltage transmission lines symbolic of modern electric power.

Public Utilities
FORTNIGHTLY

VOLUME 64 DECEMBER 3, 1959 NUMBER 12

Tight Money and Utility Regulation

By FERGUS J. McDIARMID*

A number of utilities are today earning a rate of return that is too low in relation to the cost of financing additional capital. Only by partial confiscation of senior capital acquired some years ago have many of them been able to survive. The financial facts of life should be dramatically depicted to regulatory commissions to point up the problems utilities face in competing for capital in a tight money market.

IN March, 1952, the PUBLIC UTILITIES FORTNIGHTLY published an article of mine which should help to set me up as a minor prophet of sorts, several rungs below Jeremiah but on the same ladder.[1] A couple of brief quotations therefrom will illustrate my point:

> . . . most students of economic affairs seem to feel that the long-term trend in the purchasing power of our money is likely to be downward for as far as one can see ahead.
>
> As this idea sinks home, people will be increasingly less willing to invest their savings in media which promise only a fixed dollar rate of return and a fixed repayment in dollars some time in the more or less distant future. . . .
>
> . . . Other industries may accumulate all or the greater part of their capital requirements from internal sources, but not the utilities. These seem likely over the longer term to have increasing difficulty in attracting such capital at moderate cost through the medium of fixed dollar securities—bonds and non-

*Vice president, investments, The Lincoln National Life Insurance Company, Fort Wayne, Indiana. For additional personal note, see "Pages with the Editors."

[1] "Utility Finance and Regulation in an Age of Inflation." March 27, 1952, issue. Vol. XLIX, No. 7, p. 399.

convertible preferred stocks. . . .

Interest rates on public utility bonds have recently been at the highest level in twenty-five years. A large electric utility in September sold a bond issue at a 5.77 per cent money cost, and in the same month a member company of the Bell system sold debentures at a 5.72 per cent money cost, the highest rate paid by a company of that system since 1923.

SINCE the above quotations were written in 1952, our dollar has had another 10 per cent whittled out of its value, according to the increasingly publicized Consumers Price Index of the United States Department of Labor. This is equivalent to a loss in its value of about $1\frac{1}{2}$ per cent a year, which is well below the limits of toleration set by some advocates of creeping inflation. However, this loss took place during an administration dedicated to sound money and conservative fiscal policies.

Even more significant than this decline in money value are the changes in public psychology which have taken place during this period. The chickens of profligate economic and fiscal policies have been coming home to roost in the consciousness of our people, bringing along with them a goodly contingent of buzzards. Inflationary psychology has taken hold to a point where it has radically altered the complexion of our financial markets. The signs of this are all around us. People do not seem to like bonds much any more. They seem greatly to prefer common stocks. The monthly surrenders of Series E and H Treasury bonds have greatly exceeded new sales in spite of a continuous campaign to promote them. The very great popularity of mutual funds probably indicates not so much unbounded optimism as to the future of our economy as distrust for alternative fixed dollar investment media.

THE prices of Treasury bonds have been sagging to all-time lows, although trading in them is small for lack of buyers. At certain times within the past year it was entirely possible to offer these Treasury bonds for sale at the quoted prices and to find a complete absence of buyers for days on end. These bonds, both short- and long-term, are now quoted to yield far in excess of the $4\frac{1}{4}$ per cent upper limit prescribed for new Treasury issues of five years and longer. In fact, the Treasury recently found it necessary to offer a 5 per cent rate on bonds due in a little under five years.

Meanwhile, Congress sits like a later-day King Canute, ordering the tide of interest rates to roll back. The original Canute seems to have been a fellow with a sense of humor. He no doubt performed his alleged act with tongue in cheek and all he was risking were some dampened royal robes. This he had an undoubted right to do as, after all, they were his clothes.

Our later-day Canutes, however, seem to take themselves much more seriously and they are risking much more. They are risking a further watering down of our already anemic dollar, which, of course, can do us all great harm. As a result of their stand, the public debt is becoming increasingly concentrated in short maturities, preparatory to turning into inflationary bank deposits and cash.

Balance of Payments Problem

A RECENT leading article in the authoritative London *Economist* bore the title, "The Year Europe Caught Up." I quote from it as follows:

> Measured in terms of the movement of gold assets and short-term dollar liabilities, though not in terms of the current balance of commercial payments, the United States is today a major deficit country. Its transfers of gold and other assets to the rest of the world are running at an annual rate of about $4.5 billion, following last year's transfer of $3 billion. America's surplus on commercial account has run down from its quite abnormal level in the years before Europe had fully recovered, while at the same time America's special government payments have not diminished in total.

Incidentally, this year for the first time in nearly a century, Great Britain will show a comfortable surplus in her trade with the United States.

STATING the above more bluntly, for the first time in living memory this country is faced with a balance of payments problem. Distrust of our once impregnable dollar now exists in some conservative banking circles abroad. Our diminished gold hoard of about $19.5 billion is now largely offset by short-term claims against us totaling about $18 billion, or nearly double their amount of eight years ago. Our monetary authorities are now in the unenviable position of having to keep short-term interest rates here attractive enough so that these rising short-term foreign claims will not translate themselves into an embarrassing outflow of gold.

These rising foreign claims and gold outflow indicate that internationally we have been living beyond our means. Commercially we have been paying our way with something to spare, but to make good on our foreign aid and foreign military commitments we have on balance been going rather heavily into debt abroad on a short-term basis.

Also, thanks to our price wage spiral, our competitive position has been deteriorating. This in turn has encouraged the export of capital on the part of American business to take advantage of lower production costs abroad. To such large domestic users of capital as our public utilities, this adverse balance of payments is important in that it is helping to create a shortage of real investment capital in this country and is tending to increase the cost of that capital.

The Welfare State Discourages Saving

A WELFARE type of economy by its very nature tends to discourage saving and encourage spending and consumption. After all, why save for a rainy day if it is not going to rain any more? Under a welfare state people want to borrow more money than people are prepared to save, and the government is under great pressure to create the difference through the medium of deficit financing.

On this subject I cannot do better than quote from a recent report of a well-known investment trust. The quotation, I believe, expresses the personal views of a gentleman who is chairman of this trust, is a partner of a leading international banking house, and is, among other things, probably the most able economic and fi-

nancial analyst it has been my privilege to know:

> We reiterate that our fundamental maladjustments converge on the problem of controlling inflation. How to maintain "politically" full employment, a balanced budget, and a stable price level in a society which is determined to spend more than it is willing to save, must in our opinion remain an unsolved problem.
>
> An inflationary bias has been bred into the federal budget. It is balanced with difficulty in years of high business activity; heavy deficits in a recession year are welcomed as a "stabilizer" to the economy. The simple record (fiscal years): 1957—surplus, $1,596 million; 1958 — deficit, $2,819 million; 1959 —deficit, $12,541 million; 1960 (official estimate)—surplus, $70 million. Basically the increased federal spending is not for defense; if all national defense expenditures are excluded (including atomic energy, stockpiling, military assistance, foreign aid, and technical development), the so-called ordinary expenditures have increased 60 per cent in the last five years, and account for seven-eighths of higher expenses of government.
>
> Wage increases continue at about the rate that has prevailed during the post-Korean period, with possibly some tendency for the rises to accelerate as recovery progresses. The slow, creeping increases in cost of living and wholesale prices mask a diversity of movement in their constituent elements. A weakness in prices of agricultural products essentially offsets moderate increases in those of industrial goods, and very sharp increases of services—the latter not susceptible to the economies of mass production. The steel industry's effort to check wage and price inflation in that industry is an exception; the problem is far too great to be solved by any single industry. The extent to which the rise in production costs in the United States is impairing our competitive position in world markets may be open to debate; the deteriorating ratio of our exports to imports is a matter of record.

UNDER OUR economic system, tight money, which means high interest rates and difficulty in procuring loans, seems to be the only practical alternative to more inflation. Some people who should understand this simple fact, and probably do understand it, still tend to oppose the idea. This group even includes some bankers. To many people the ability to borrow all they want at modest interest rates and pay it back as they choose is looked upon as a natural human right, along with life, liberty, and the pursuit of happiness. The idea of attempting to match up total borrowing in the country with total savings represents a type of discipline just too hard to face.

ALL of this has become a very serious business for us because we find ourselves in stern competition with a type of economy which is the antithesis of a welfare state. If we were not aware of this before the recent visit of Mr. Khrushchev, we have now been officially put on notice. Communism as practiced in Russia is a type of state Capitalism which produces quite high savings, savings which are

relatively higher in proportion to income than our own, according to the available data. Under Communism, savings are a prior claim on the national income, the size of this claim being determined by state policy; and the people live as best they can on what is left. What is probably most important of all is that the government can and does direct the use to be made of these savings, directing them mainly to build up heavy industrial potential, and only to a minor extent into consumers' durable goods. This is clearly indicated by the data in Table I below.

Under our system, savings are a residual item, what is left over after we have consumed what we want. Moreover, we make little attempt to direct the flow of these savings, except through the medium of the financial markets.

It is very likely our economic race with Communism will be decided to a large extent on the basis of which system is the most effective in accumulating savings for real investment, and which makes the most effective use of such savings. This is the factor which, in all probability, mainly determines the relative power of modern states. In such a race in a free society such as our own, where saving is still a voluntary process, a degenerating currency can be an insuperable handicap because it discourages the savings process. Why, after all, save dollars if one is to reap his ultimate reward in the form of dollarettes? Hence the vital need to stabilize the value of our dollar at almost any required sacrifice.

Bonds Have Become Unpopular

As this article is written, U. S. Treasury bonds of quite short duration are quoted to yield between 4½ per cent and 5 per cent. This fact has recently become reflected in the borrowing costs of public utilities, which are now at close to the highest level in thirty-five years. In Can-

TABLE I

U. S. *VERSUS* SOVIET UNION PRODUCTION, 1958

	Per Head of Population	
	U. S.	*U.S.S.R.*
Meat	161 lb.	84 lb.
Butter	8 lb.	8 lb.
Eggs	45 lb.	15 lb.
Sugar	98 lb.	57 lb.
Cotton Fabrics	50 yds.	31 yds.
Wool Fabrics	2.9 yds.	1.6 yds.
Leather Shoes	3.5 pair	1.7 pair
Paper	227 lb.	24 lb.

	Per 1,000 Population	
	U. S.	*U.S.S.R.*
Motorcars or Cycles	27	1.7
Refrigerators	16	1.7
Washing Machines	16	2.3
Radio Sets	50	17.0
Television Sets	30	4.0

It is estimated that the Russians will still live two to a room by 1965.
Source, The Economist (London).

ada, where interest rates are traditionally higher than in this country, the government recently offered a large refunding issue with the purchasers being given a choice between one- and three-year bonds, each to yield in the neighborhood of 6½ per cent. They even saw fit to sweeten the deal by offering a valuable exchange of these bonds into longer-term bonds at the option of the holder.

Quite evidently the bond buyer has become a very coy individual indeed who requires a lot of coaxing. Or should we say that the burnt child fears the fire? For in the last eighteen years the holder of bonds has had a very bad time of it. It can be easily demonstrated that over that period the holders of all of the bonds of a large segment of the public utility industry, including the electric and telephone companies, have actually received a negative return on their investment. The total of all interest paid on these bonds over that period has hardly been sufficient to offset the loss in their principal value due to inflation. Add to this the fact that some of this interest has been taken in taxes and also that the market values of most of these issues have shrunken greatly as interest rates have risen.

THE way things have worked out for the purchasers of two individual long-term public utility bond issues is shown in Table II this page.

Both of these issues carry the highest quality bond ratings. Issue A was sold in 1945 and Issue B in 1949. In both cases I have converted the dollars representing all interest payments to date, and also the dollars representing the current market value of the bonds, into dollars having the same purchasing power as those which were originally paid for these bonds at their time of issue. It required, for example, only $62 of 1945 purchasing power

TABLE II

Issue A 2¾% Issue Maturing 1985
Offered Oct. 9, 1945, at 101.83 — Latest Quoted Price 71.

	Current Dollars	*Value Expressed In Dollars of 1945 Purchasing Power**
Price Per $1,000 Bond in 1945	$1,018.30	$1,018.30
Interest Paid to Date (thirteen and one-half years)	371.25	264.00
Present Value of Bond	710.00	441.00
Interest Paid + Present Value	1,081.25	705.00

Issue B 3⅛% Issue Maturing 1983
Offered May 5, 1948, at 102.50 — Latest Quoted Price 77½

	Current Dollars	*Value Expressed In Dollars of 1948 Purchasing Power**
Price Per $1,000 Bond in 1948	$1,025.00	$1,025.00
Interest Paid to Date (eleven years)...	343.75	313.00
Present Value of Bond	775.00	643.00
Interest Paid + Present Value	1,118.75	956.00

*The Consumers Price Index of the U. S. Department of Labor was used to make the adjustments.

to equal the purchasing power of $100 in 1959. Thus bond Issue A, which has a present market value of $710 per $1,000 bond, has a present real value equivalent to only $441 of the kind that were paid for the bond back in 1945. Also, bond A has paid $371.25 of interest to date but this interest was paid in dollars of varying purchasing power and they had a real value at the time they were paid equal to only $264 in 1945.

Therefore, the value of both the present market price and all interest payments to date was worth only $705 of 1945 purchasing power. This was 30 per cent less than the $1,018 paid for the bond at issue. So you see that the buyer of this bond has gotten no real return at all but has suffered a capital loss of 30 per cent. That is what a combination of artificially low interest rates and inflation did to him. Figuring it out the same way, the buyer of Issue B in 1949 did somewhat better. He got no real return either but his loss was only 7 per cent. Now if you purchased a stock and over an extended period of years the shrinkage in value greatly exceeded the dividend return you received, you would say you had made a very poor buy. Over the last twenty years the buyers of bonds as a whole have had something approaching this experience.

THE ABOVE calculations indicate that one of the best ways to dissipate the real values created by savings is systematically to buy the best of all possible bonds at the worst of all possible times. The real losses thus achieved in total magnitude have reduced to insignificance the default losses suffered by bondholders during the Great Depression. It is possible that the managements of some public utilities may take a degree of satisfaction in the large amounts of bonds which they have outstanding carrying quite low coupon rates and maturing well into the future. This, however, should be a matter of limited rejoicing, for the golden egg has been consumed through investment in plant, and the goose that laid it, while not dead yet, is both a disillusioned and frustrated bird, and very much on guard against similar treatment in the future.

IN the face of these facts, the apparently widespread desire to spring the same old trap on bondholders within the same generation is quite surprising. I refer, of course, to those who would have the Federal Reserve authorities rig the government bond market, and presumably other bond markets, by buying bonds to support the market artificially with newly created money. If an individual rigs the market for a stock in such a way as to defraud the public, he is likely to suffer the penalties of the law, but for a government to do the same thing to the market for its bonds is considered by some to be enlightened public policy. However, it is doubtful if such a trap can be successfully sprung again at an early date. Memories may be short but not that short. An attempt to do so now would heighten inflationary psychology and accelerate the movement away from bonds and mortgages as investment media.

IN our type of economy, the most important, and in some cases the only method, of tapping the savings of the public has been through the sale of fixed dollar media—bonds and mortgages. It is true that most industrial companies could

probably meet their outside capital requirements, if they had to do so, through the sale of stock. Even the public utilities might be able to do this, although it would represent a revolutionary change in their traditional methods of financing. However, governments, both national and local, cannot sell stock; they can only finance through bonds. And home owners cannot sell stock; they must finance through mortgages or not at all. This is one reason why the declining popularity of fixed dollar investment media tends to have its most severe impact on government and home financing. It has a more severe impact on public utility financing than on that of industry in general.

How can one account for the relative suddenness of the impact of tight money? As a result of deficit financing by the federal government, particularly during and immediately after World War II, our money supply represented by bank deposits and cash in circulation has greatly increased. This money supply in 1939 totaled $63 billion, but by 1945 it had grown to $151 billion, to $177 billion in 1950, to $217 billion in 1955, and to $231 billion in 1959. Due to the very sharp rise in the money supply during and immediately after World War II, a superabundance of money seemed to exist and its rate of circulation slowed down. Bank loans at low interest rates were very easy to obtain and the total of such loans was low in relation to bank deposits.

THE sudden increase in the money supply was vastly greater than the increase in our productivity, but it took some time for this to be fully reflected in a higher price level. However, we have steadily grown into our enlarged financial clothes until now even these are bursting at the seams. Prices have now risen to match the larger money supply, which in relation to our national income is now about as large as in 1929. Also, the rate of circulation of our money has been steadily increasing and this is also now about as rapid as in 1929. The banks are heavily loaned up and the monetary authorities rightly fear that any substantial increase in the money supply at this time will only lead to further inflation and a flight from the dollar, both on the part of holders of foreign dollar balances and on the part of our own people to the extent they are able to do so.

The Shrinking Market for Fixed Dollar Securities

WHILE investors in general have probably not made actual calculations such as those presented above, they have an increasing awareness of what such calculations show. For this reason, as I have pointed out in previous articles in the FORTNIGHTLY, the market for corporate bonds, including utility bonds, other than convertible issues, has become almost entirely an institutional market. Individuals no longer buy these bonds. They are bought almost entirely by life insurance companies, pension funds, and some trust funds, which constitute a captive market for them. And, as I have previously pointed out in these pages, there are signs that this captive market is tending to shrink.

A FEW years ago the life insurance companies held about two-thirds of all public utility bonds outstanding. This proportion has dropped to a little under half, although the absolute amount of their holdings has continued to rise. A number of reasons may be stated for this trend:

1. There is an increasing disfavor toward long-term bonds without significant amortization and with a minimum of call protection. These have treated their holders particularly poorly, as the above illustration shows.

2. The asset growth of the life companies has tended to level off somewhat due to the increased sale of term insurance which accumulates little assets. These companies have no trouble at all investing their available funds in industrial and municipal bonds, which usually have good amortization and call protection, and in real estate mortgages.

3. The higher level of income tax recently imposed on the life insurance companies by the federal government materially increases the advantage to them of tax-exempt municipal bonds and preferred and common stocks whose dividends are 85 per cent tax-exempt when paid to another corporation. The advantage of owning fully taxable corporate bonds and mortgages has, therefore, declined relatively.

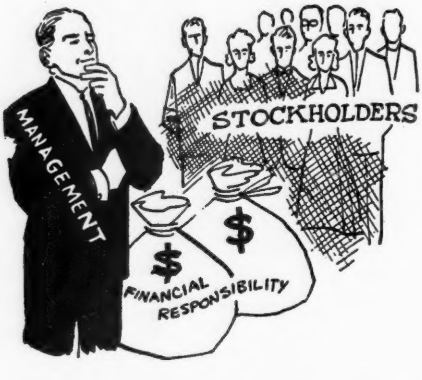
It would be highly instructive if someone would make a detailed and accurate study of just where the market is for public utility bonds today. However, the circumstantial evidence available seems to indicate that it is in large part with the pension funds, both those of private industry and those for municipal and state employees. These are not subject to taxation of their investment income. This market is probably concentrated with those pension funds which are largely restricted in their investment to the purchase of publicly sold, rated bonds. This particular market is probably tending to contract as pension funds are allowed greater latitude in their investment, and as their managements acquire greater sophistication.

New Tax on Life Insurance Companies

THE assets of life insurance companies total some $120 billion and are increasing at a rate of close to $6 billion a year. They are still by far the largest single market for long-term debt obligations in the country. Therefore, the new federal tax imposed on these companies in 1959 should be of more than passing interest to the long-term corporate borrowers. The life insurance companies to date have been somewhat less successful in assessing the exact effect of this tax on their investment operations than the Russians were in timing the arrival of a rocket on the moon.

However, the general effect of this tax will be to increase the value of tax-exempt interest and stock dividends in relation to that of fully taxable bond and mortgage interest. Its impact in this respect will be much greater on some life insurance companies than on others. In extreme cases, 75 cents of tax-exempt interest will have a value equivalent to about $1 of taxable interest. This would mean that a 4½ per cent tax-exempt municipal bond would be as desirable as a 6 per cent corporate bond, assuming such other factors as security, term, and call protection, were similar. However, in most cases the effect of the tax will be relatively less powerful.

Insurance Companies' Investment Portfolio Changes



ONE result of this tax to date has been to throw some life insurance companies which have large public utility bond portfolios, and which until recently have been substantial purchasers of such bonds, heavily into the municipal bond field, where they are now investing the bulk of their new money. It has also caused them greatly to contract their mortgage loan operations, particularly in the residential field. The municipal bond field is very large and presumably it will not become overcrowded by these new entrants. In 1958 a total of $7.4 billion of tax-exempt state and municipal bonds were sold against only $6.5 billion of corporate bonds of all types. In 1959 the total volume of new tax-exempt bonds may well exceed $8 billion. The continuing need for new schools, streets and roads, sewers and water systems would seem to ensure a continuing heavy supply of such bonds, more at times than the market can conveniently absorb.

THE new tax on life insurance companies also greatly increases the value of preferred stocks to them. This is a type of security which only a year or so ago was having a pretty thin time of it with little investor demand. Under the new tax law, dividends on stocks are 85 per cent tax-exempt to a life insurance company. This means that in a case where 76 cents of tax-exempt interest is equivalent to $1 of taxable interest, then 80 cents of stock dividends would be equally valuable. Putting it another way, in such an instance a 5.4 per cent preferred stock dividend rate would be as valuable as a 6¾ per cent corporate bond interest rate.

Unlike the supply of municipal bonds, that of preferred stocks appears to be quite limited, the amount of such new issues probably not greatly exceeding $500 million a year, very largely from the public utilities. The new demand injected into this field by the life insurance companies probably explains why the spread between public utility preferred stock dividends and bond interest rates is now at the lowest point ever, having practically reached the vanishing point in some cases. In for-

mer times preferred stocks yielded on average about 1 per cent more than the bonds of the same companies, although at times this spread widened to as much as $1\frac{1}{2}$ per cent and at times it narrowed. The new tax on life insurance companies, therefore, should prove a stimulant to preferred stock financing by public utilities.

To Be More Specific

THE bearing which the above comments have on public utility financing problems is obvious. However, one can be still more specific. In view of the recent changes in financial markets, one can only conclude that quite a few utilities are now earning what can be considered only a substandard rate of return. Over a recent period of one year, 25 electric utilities out of a total of 116 earned less than $5\frac{3}{4}$ per cent on the average amount of their stated capital; that is, they earned less than what appears to be the recent going rate on first mortgage money. Of course, on a rate base giving some weight to present-day property costs, the return earned would have been substantially lower. These poor earners were concentrated mainly in New England, New York, Missouri, and the Pacific coast states.

The only reason that this situation is even remotely tolerable is that these companies, among others, are still living to a considerable extent off the transferred fat of the goose referred to earlier in this article. That is, they are living off low-cost senior capital on which the suppliers have received on the whole little or no real economic return to date. In fact, as was demonstrated above, this return on occasion has been strongly negative. It has been, therefore, only by the partial confiscation of this senior capital that many utilities have been able to survive on their present rates of return.

This is hardly a state of affairs which can be safely allowed to continue long into the future. For one thing, the goose has gained in wisdom and has developed a healthy suspicion. Senior capital—that is, fixed dollar capital—is going to cost a great deal more if it is to be available at all in the quantities expected. Common stock equity is going to require increasing earnings per share if it is to be available in competition with other competing fields for equity investment. A public utility common stock which behaves like a junior preferred has very limited appeal.

FINALLY, the progress of inflation over the past twenty years, during which the dollar has lost over half of its value, has rendered obsolete the concept of original cost as the sole basis for rate making.

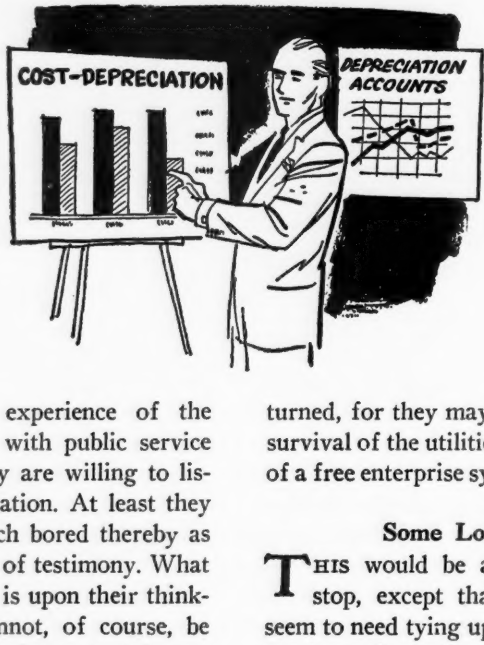
If this is not crystal clear on the face of it, it can be made so by carrying the analogy over into the field of pension plans. Many of these plans were originally set up on what might be described as an original cost basis. That is, pension credits, payable annually after retirement, were built up based on some percentage, usually between 1 per cent and 2 per cent, of each current year's salary. Except for inflation, such plans would probably have done the job. However, they have tended to produce inadequate pensions to older employees, whose credits were largely built up in years gone by when the dollar was worth a lot more and wages were correspondingly lower. In revising such plans on an adequate basis, many companies have put a floor under pensions by relating them to earning power in the

final or highest-paid years of service. In effect, they have switched from original cost to present value and have done this as a matter of justice.

Is there any good reason why investors in utilities should not receive similar equitable treatment? This, of course, would require recognition of the fact that a dollar invested over twenty years ago was over twice as large a real investment as a dollar put in today and should be treated in this light with respect to earnings which are expressed in today's small dollar.

What Can the Utilities Do about This?

MUST they consider themselves helpless at the hands of types of regulation which either do not understand, or prefer not to understand, the current economic facts of life? Some of them have only limited room for maneuver, for the time being at least. However, they are under real compulsion to present as forcefully as possible all the facts. In presenting their cases for better earnings, some of the old, rather stereotyped approaches particularly need face lifting. Certainly the statistical facts regarding the cost of money, original cost of property, reproduction cost, etc., are still important. In themselves, however, they may no longer be enough. They should be supplemented as forcefully as possible by a broad brush presentation of the nature of the present economic world in which the utilities must compete for capital.



It has been the experience of the writer in connection with public service commissions that they are willing to listen to such a presentation. At least they do not appear as much bored thereby as by certain other types of testimony. What the immediate impact is upon their thinking and decisions cannot, of course, be weighed. However, the issues at stake are too great to leave any likely stone unturned, for they may very well decide the survival of the utilities as healthy elements of a free enterprise system.

Some Loose Ends

THIS would be an excellent time to stop, except that a few loose ends seem to need tying up. Some of the statements made earlier in this article were rather on the disturbing side. They were,

of course, meant to be so and they expressed the deepest feelings of the writer. In spite of them, it is possible to end a little later on a modestly optimistic note. Before doing so, however, it seems desirable to try and pinpoint ourselves in the march of history.

Our modern industrial age is 150 or 200 years old, depending on whether it be dated from the Napoleonic Wars or the development of a practical steam engine by James Watt. A necessary requirement of this era has been the mobilization of capital in private hands, and this in turn has depended upon a relatively stable currency. Without the latter, the mobilization of capital would pass largely by default into the hands of government, which alone has the power to raise capital by taxation, directly or through inflation. Under such conditions, such large consumers of capital as the public utilities would be forced into the hands of government as the only party capable of raising the required capital.

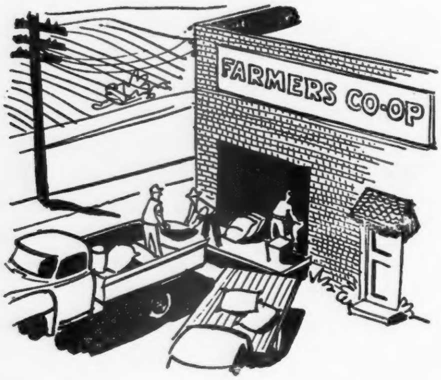
THERE are signs, however, that the western world is becoming fully aroused to the threat which inflation and statism pose to our traditional way of life. The re-election of the Conservative party in Britain by a large majority to an unprecedented third term is a case in point. This is the party which dared to apply the discipline of unprecedented tight money (bank rate 7 per cent) from which has resulted eighteen months of stable prices, along with unprecedented prosperity. The election of De Gaulle in France represented a turning away from fiscal irresponsibility in a country which has suffered greatly from it. The renaissance of West Germany under the stimulation of a stable currency is probably the most powerful lesson of all.

And within the last few months there are signs that the label "big spender" is hardly a vote getter here. The best way, of course, that the individual can reinforce that trend is to write his Congressman and other people's Congressmen. Experience has shown that they read their mail because they nearly always answer it. If you do not like the reply you get, you can always write again. The fellow who writes may very well exert one hundred times as much influence as the one who does not.

IF the American people have become so soft in the head that they think they can get pie in the sky at the price of a debauched currency, then Khrushchev's system may deserve to win, as he says it will. It would, of course, be a victory by default. After all, it was Lenin who said that the best way to wreck a capitalist society is to debauch its currency, and he must be rated as an expert in this matter.

¶ "I DON'T know whether Mr. Khrushchev liked what he saw in the United States or not. But in the future it won't be quite as easy for him to believe some of the nonsense about America projected to the world by his own propaganda mechanism."

—GEORGE V. ALLEN,
Director, United States Information Agency.



Electric Subsidy—for Whom?

By DEAN H. MITCHELL*

President, Northern Indiana Public Service Company

The objective of every communistic or similarly fanatical political group is to first federalize the power of the country it seeks to control. More than sixty different types of business have been invaded by the subsidized co-op. As more tax-paying businesses leave the field, cost of these subsidies mount. How much can the country stand? Who will pay our federal tax bills? How far will government subsidy go in the electric industry?

So much heat has been generated and so much lightly said on rural electrification, that I shall try to deal objectively with a subject of immense importance not only to utilities in Indiana, but to the nation as a whole. It is essentially this: Where are we going with government subsidy in the electric industry?

To gain the proper perspective, let us review information of the Rural Electrification Administration and the establishment of the electric co-operatives in Indiana.

In 1936 the federal government passed the Rural Electrification Act. I quote from § 902:

The administration is authorized and empowered to make loans in the several states and territories of the United States for *rural* electrification and the furnishing of electric energy to persons in *rural* areas who are *not receiving* central station service. (Italics supplied.)

There is strong indication here that the REA power was for the farmer only, and moreover that it should not be extended to people who could be served by the investor-owned utility.

In anticipation of the federal act, the Indiana legislature had passed the Rural Electric Membership Corporation Act in 1935.

I quote from its title:

*For additional personal note, see "Pages with the Editors."

An act providing for the formation of nonprofit membership corporations to be known as *rural* electric membership corporations for the purpose of making electrical energy available to the *inhabitants* of the *rural* areas of the state. (Italics supplied.)

THE intent of the lawmaking bodies to confine this subsidy to the farmer only, and to those farmers who were without electric service, is obvious and was generally accepted at the time. It indicates strongly that the farms that could be served by central station service, and therefore without government help, should be so handled. The serving of industrial loads by the farm co-operative was, of course, to be left to the central station systems. In fact, for many years that seemed to be the order of the day. It was a part of a great co-operative movement, having as its sole purpose a benefit to the then hard-pressed American farmer.

Comments at the time were typically these: First, our economy has never quite solved the problem of the economic distribution of the products of farm and industry. The great co-operative movement is an attempt to solve this problem for the farm portion of our people; but, second, we must be careful to see to it that this new manner of goods production and distribution pays all its costs, receiving no government subsidy, for in that way only can its efficiency be finally determined. Hassil E. Schenck, president of the Indiana Farm Bureau, had an enlightened point of view. I quote him:

Any co-operative which cannot exist without special privilege and continue to render a constructive service to its members has little excuse for its existence. There are matters which we must face realistically in the rehabilitation of free enterprise in our country.

REMC Movement Launched

IT was upon this high note that the co-operative movement was launched in Indiana, and with it the Rural Electric Membership Corporation. Nevertheless, normal caution induced me to make the following comment about that time: "One of the greatest dangers to our system of competitive free enterprise may lie in the *expansion* of the subsidized co-operative." I have never changed that point of view.

Today subsidized co-operatives are engaged in over sixty types of businesses in competition with federal income taxpaying private enterprise.

At the time the REMC Act was passed, Northern Indiana, my company, was already serving more than one-third of the rural customers located in its territory. In the state over all, the record was not quite that good—approximately 15 per cent of the farm homes were connected to private utility lines. Expansion of electric energy to all farms was held back for the following reasons:

1. The farmers' homes were not wired to use it.
2. Coming out of the depth of the depression, the farmers had neither cash nor credit sufficient to wire their homes and to buy appliances to use the energy.
3. Rural revenue at best was thin in comparison with the investment needed.
4. Utility earnings were low and financing construction in a free money

market for rural areas at this depression time was next to impossible.

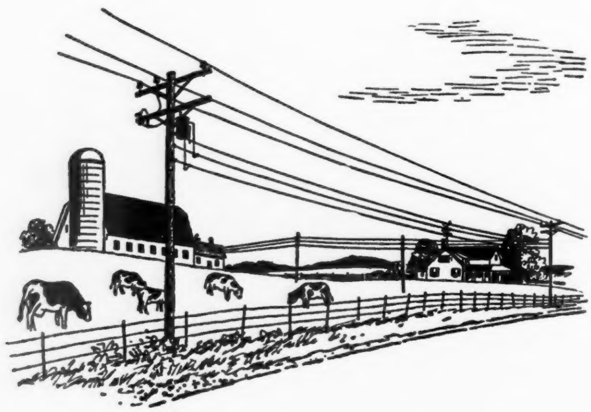
The Indiana utilities unanimously took the position that under these conditions they would not oppose, but support, subsidized rural electrification to the farmers who were without service. Harmony reigned.

It has often been said that rural electrification made its quickest and greatest strides in Indiana. Today almost every farmer in Indiana—99.9 per cent—is served with electricity, either by central station service or through the REMC's. Of this number, about one-half are served by the investor-owned utilities without federal subsidy.

Example of REA Subsidy

TO demonstrate that the subsidy offered through the REA Act is real, I shall apply its startling benefits to my own company (Northern Indiana Public Service Company):

First—The cost of money to Nipsco today—6½ per cent; cost of money today to the REMC's—2 per cent. This difference of 4½ per cent in the cost of money applied to our electric investment will exceed	**$11,250,000** annually
Second—The REMC's pay no federal income tax. The federal income tax applicable to our electric property is	**$ 8,246,000** annually
The total of these two items of subsidy is	**$19,496,000 each year**



To give an idea of the value of this subsidy if applied to Northern Indiana Public Service Company, our whole residential and rural revenue for 1958 was $19,868,226. If we had the tax and 2 per cent money subsidy of the REMC's and applied it to residential and farm use only, we could give these customers free electric

service all year and the company would be as well off as we are now. In fact, if we had the benefit of just the federal income tax subsidy alone, we could give free electric service to all residential and rural customers for six months of each year and come out with the same net income.

In addition to the above, state and local property tax valuations have been made that are very favorable to the electric co-operatives in comparison with electric utility assessments.

THIS subject has been so confused in the minds of some electric energy co-operative enthusiasts, that the REMC has been pictured as a yardstick to measure the costs of the privately owned public utility electric companies. Obviously no yardstick can obtain when the REMC's receive 2 per cent money, pay no federal income tax, and enjoy special privilege in the area of property tax.

I believe I express the sentiments of the entire electrical industry in Indiana when I say that we regret our inability to serve all farmers in the midst of the Great Depression, and that the industry recognized then, and now, the desirability of bringing electric energy to all the farms of Indiana.

But we are just as firm in our belief that the benefit of the subsidy should be confined to the farmers as the lawmaking bodies intended, and not spread to industries wherever located nor to towns and cities with populations over 1,500 people.

The investor-owned tax-paying electric utilities have historically furnished all the energy requirements of the REMC's since their inception. At no time have the central station utility companies failed in their ability to furnish all the wanted or needed energy to everyone in Indiana, including the REMC's. Yet, today, the Hoosier Co-operative Energy, Inc., is seeking a federal loan of $53 million to finance construction of a subsidized non-federal income tax-paying steam-generating station and 1,400 miles of transmission lines of the same subsidized class.

A Few Cogent Facts

JUST how little this $53 million subsidized project is needed in Indiana is apparent from the following facts:

All of the customers of the 16 rural electric co-ops involved in this project have never in their history used more than 83,637 kilowatts of capacity to meet all of their combined simultaneous electric needs, yet the 16 rural electric co-ops now propose to build, supposedly to serve these same farmers, 198,000 kilowatts of generating capacity—almost two and one-half times as much.

The customers of the 16 rural electric co-ops consumed in 1958 a total of 361 million kilowatt-hours of electricity, yet the 16 rural electric co-ops now propose to make available, supposedly to these same farmers, more than 1.2 billion kilowatt-hours of electricity in a single year—three and one-half times more than they used in 1958.

Is this immense capacity to be used by the farmers only? If so, the waste of construction ahead of need is astounding. If not, then where are we going with subsidized energy?

It has been charged by many that the new application of the Indiana REMC for a loan of $53 million to construct un-

needed production and distribution facilities envisions the serving of some kind of new industrial load not now disclosed.

David A. Hamil, REA Administrator, has rejected the request for a public hearing on the application of the Indiana cooperative group. A key to the mystery may be found in his recent statement estimating that of the 120,000 new customers added by the REA each year, 75 per cent will be nonfarm establishments. He further estimates that, in five or ten years, nonfarm customers will outnumber farm customers and will be using more than 75 per cent of the REA electrical energy.

IF THIS IS SO, where are we going with government subsidy in the electric industry? Even if this fantastic increase in farm electric usage were actually to occur overnight, Indiana's investor-owned electric companies are prepared to meet it in full—right now—with reserve generating capacity already installed and ready for delivery—today—to the 16 rural electric co-ops at any or all of separate connection points in a supply system in which the investor-owned electric companies already have invested more than $10 million. If a setup such as that proposed by the REMC's is able to get REA financing, it will be a sure signal for co-ops everywhere to expand activities into far-flung fields. Conçeivably it could set the precedent for establishing additional junior TVA's that could no doubt effectively woo industries into their areas with electric rates subsidized by 2 per cent financing and tax-free operations.

What about Electric Rates?

Now, how about the price charged the REMC's for electric energy? The average rate today is 8.8 mills, and is subject to regulation by the state public service commission.

That the electric rate is a fair one and low can be attested by the initial decision approving the first REMC rate. It was a commission appointed by the farmer governor, Cliff Townsend, with Perry McCart as its chairman and the farmer, Sam Trabue, as the other majority member.

The decision approves the rate, not because "it pays its way, but because of the social beenfits involved."

Nevertheless, the price charged today by Northern Indiana Public Service Company, under the present rates, is 21 per cent under the 1937 rate in the face of inflationary costs that are common knowledge.

The REMC's loan, if granted, will carry an interest rate of 2 per cent. The federal government will pay an interest rate of 5 per cent for these funds. There is no need to devote federal funds for this use. The money loaned is not only a direct loss to the federal Treasury, but the building of these lines and production capacity is a complete duplication of facilities now available for the same purpose.

It must be clear to everyone that the rest of the taxpayers make up for the immense subsidy I have outlined. Should it be used for expansion into fields hardly anybody but the socialistic Washington planners had in mind when REA was created?

Aim at Federalizing Power Supply

WHY this continuous drive for socialized power by the fanatical government power bloc in Congress?

Electricity is a small portion of the family budget—according to the Bureau of Labor Statistics, only about nine-tenths of one per cent. Today electricity is sold at a lower price than twenty-five years ago in the face of a 319 per cent rise in labor costs, a 348 per cent increase in taxes, and a 129 per cent rise in material. All of these enter into the costs of the energy that the companies serve at the consumer's meter. The pricing performance of the electrical industry is the marvel of this inflationary age. No other industry nor commodity can match it.

To nationalize energy was in the Socialists' platform of 1924 and has been there ever since. Every form of federalization, from Fascism to Nazism to Socialism to Communism, has had as its first objective the federalization of power supply. It has been the first move taken whenever a dictated economy moves in. The reason is obvious—if you nationalize power, you are in position to exercise dictatorial control over every other industry.

I have stated before that more than 60 different types of businesses have been invaded by the subsidized co-op. Can the utility business withstand such subsidized intrusion? As tax-paying businesses leave the field, the cost of these great subsidies increases to everyone else. Sometimes one must wonder who will be left to pay the bill for our federal upkeep and our country's defense.

THE tax-paying electrical industry is the largest industry in the nation. If it is ever nationalized by centralized political control, let me reiterate that the quickest and surest way to federalize and control all industry will have been established. Subsidies of the kind I have outlined can drive private investment from the electric utility field.

So I ask: Where are we going with government subsidy in the electric industry?

"BACK in 1933, a government corporation known as the Tennessee Valley Authority (TVA) was created by Congress to administer a navigation and flood-control project. It was understood then that the project would generate some hydroelectric power as an 'incidental by-product,' in order to provide a government 'shot-in-the-arm' for an underdeveloped region of the country. . . . It should not be surprising that TVA is dear to the hearts of people in the vast 80,000-square-mile area which it serves. The system supplies electricity to its customers at almost half the price paid in other areas served by private utility companies. . . . But cheap TVA power is not made possible through some form of magic. It is subsidized power provided by the generosity of the federal government—that means all the taxpayers of the nation. As a government corporation, TVA pays no federal income taxes (while competing private companies pay 52 per cent; TVA receives its capital from the taxpayers . . . and it pays no interest thereon."

—ROBERT P. GRIFFIN,
U. S. Representative from Michigan.

Management's Multiple Responsibilities

Management is the balance wheel that keeps employee, customer, and stockholder happy and satisfied in the operation of a telephone company. To do so it must see that good service is rendered and that a worth-while profit is made. Employee and stockholder must be adequately compensated. Customers must be persuaded cost of service is right and firmly sold on the integrity of the company. All of the multiple responsibilities of management are of equal urgency and importance for each company operation.

By ALFRED J. BARRAN*
President, General Telephone Company of the Northwest

MANAGERIAL responsibility deals with a very serious side of the telephone business. It involves the answer, in an objective and honest manner, to the question, "Why are we in the telephone business?" Are we in business to further our own financial interests? Are we in business to provide good jobs for other people? Are we in business to give good telephone service? Are we in business to make a profit?

The answer to all of these questions is obviously "yes." I do not think anyone in the telephone business would find disagreement with this conclusion. Yet sometimes in our endeavor to fulfill each of these objectives there is a tendency to concentrate too much on one or two which creates an unbalanced situation.

As I see it, the telephone business is very much like an equilateral triangle (all sides equal). The sides, equal in length and strength, are represented by (1) the employee, (2) the customer, and (3) the share owner or stockholder.

If we agree that a successful telephone company must maintain this equilateral position at all times, then it follows that

*For additional personal note, see "Pages with the Editors."

equal emphasis or concentration must be placed on each of the three sides of my triangle. It becomes necessary under this concept to evolve a policy for management. I should like to suggest this one for consideration: *"It is management's responsibility to carry out whatever course of action is necessary to fulfill its total obligations to employees, customers, and share owners."*

Now I think we should take management's responsibility, break it into three parts, and analyze each side as seen from the viewpoint of the three publics: the employee, the customer, and the share owner. These are as I have observed them in my personal experience of dealing with the three, first as an employee (nonmanagement, middle management, and top management positions), second as a customer and serving customers, and third as a share owner (with a personal portfolio) and the responsibility to company share owners.

What Employees Want

LET us look briefly at what the employees of our companies want out of their jobs. First of all, I strongly believe that the most potent motivator in management-employee relationships is a very simple thing—recognition. Each of us wants to be recognized. I think we often minimize the power of recognition!

Since the beginning of time man has sought acclaim in the eyes of his fellow men. He has thirsted for recognition. Management must recognize its employees. A good job—a job well done—must be recognized. As an employee "pushes to the front" his efforts must be commended by the front office. Lack of recognition for a job well done is as demoralizing as the absence of applause for an actor after a stellar performance. We all live for applause.

MANAGEMENT must be mindful at all times of the things which motivate its people down the line to do a better job—to move mountains. *Progress is not measured alone by success. Great men have found no royal road to their triumphs. It is always by the old route of overcoming obstacles—yes, even failures.* We should always remember that the experience of failure, if employed to build a better next job, is more valuable than the success which sometimes leads to stagnation.

People desire objective criticism. Criticism given constructively is recognition.

Merit must be recognized. Any company on the move, in tune with progress, is always looking for good people. It is in management's best interest to advance a person as soon as it is profitable to do so.

HOW ABOUT MONEY? Is it really the motivator some think it is? Some management people believe that the pay check is **the** prime motivator. I do not think so. A man or woman who gets no more from his job than the wages his employer pays him is cheated—he cheats himself. A person who does this is depriving himself of a full life. Working at a telephone job, irrespective of the kind of work and the level in the organization, is practical training for increasing skills, expanding experience, stretching the mind, and strengthening and building confidence and intellect. **A job, therefore, is not merely a machine to grind out dollars and cents.** Good management will always give a great deal more than is found in the pay envelope.

Good management is inspirational. It inspires people to do something higher. It inspires them to do a good job better.

I THINK it is safe to say that every employee wants to be proud of the company he works for. Certainly it makes life much more pleasant when customers hold a company in high esteem and are friendly toward its representatives. An objective, thinking employee, who is honest with himself, usually will not work very long for a company which does not have unwavering integrity. He will not work very long for a company which does not have the steadfastness to stand firmly behind its policies and decisions. On the other hand, flexibility is a virtue. A progressive employee is attracted to a company that will change as conditions change and make use of new improved methods, tools, and ideas.

A happy employee is one who likes to feel that his company is giving him just a little more than the book says. A company which operates strictly within the framework of precise procedures and practices, and that is all, does not gain the loyalty of its people like the one which gives a little more than the rule book calls for.

I have often heard that the reason people work for telephone companies is because they feel secure in their jobs. Yes, an employee wants to know that his job is protected against the undisciplined actions of management; however, on the other hand, he does not want his opportunity for advancement retarded because someone who cannot do the job is secure. He wants to know that his own efforts provide all the security he needs.

Working conditions are important, too. An employee wants a pleasant atmosphere during working hours. He wants work which is stimulating and challenging. When he leaves his job at the end of the day he wants to look forward to tomorrow as another day of opportunity and of agreeable associations with his fellow employees and the company's customers.

Meet the Customer

I SUPPOSE if you want to cut quickly through all the red tape and conversation to find out what customers want from telephone companies, it can be expressed quite tersely—SERVICE. A customer of any organization—a hospital, a garage, an airline, a hotel—wants one thing above everything else, good service. Service is the solid foundation upon which any organization is built—utility company or not.

Recently I was at the air terminal in Portland, Oregon, on my way to Los Angeles. At boarding time much to my disappointment a sign went up on the departure board announcing a two-hour delay. Frankly I have never heard such moaning and grousing as the irritated passengers of that plane did until something very important happened. One of the employees of this airline asked the group to step over to a corner of the airport for a message. In a very efficient and friendly way he explained that the aircraft which we were to board had not passed the safety inspection by the flight crew. He explained that it was the policy of the airline to think of the passengers first. He then asked us for our understanding and co-operation. It was amazing to see how the ire of this group melted. I heard one passenger remark: "Well, I've got to be

in Los Angeles tonight, but I'd rather get there late than not at all." An entirely different attitude than a few minutes before. Why? Because an employee of this airline took it upon himself to think about the customer—to put himself in the customer's shoes.

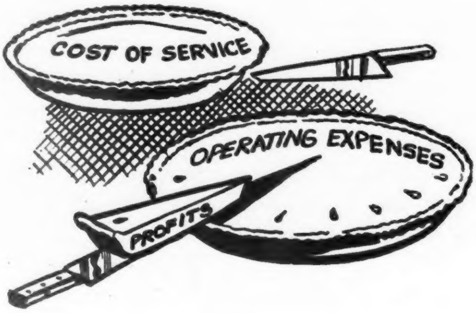
A MANUFACTURER may make a perfect product, but if he does not know how to deliver the goods to his customers he will soon be out of business. Attention to service is more important than product quality.

Inferiority of either service or product is poor business, but I think a customer will go along with a slightly inferior product if it is sold and serviced in a superior way. On the other hand, a top-quality product serviced in an inadequate way will not be tolerated by the average customer.

A CUSTOMER of a telephone company, when he walks into the business office or calls on the telephone to place an order, is asking for one thing—service. In his own mind he is not asking for a telephone instrument, inside wire, cable, central office equipment, etc.—he wants telephone service. A few years ago when I was public relations director I answered a customer's letter asking for the reasons why he could not get immediate telephone service with the statement, "There are no facilities available." In the next mail (at least it seemed that quick) the customer answered, "But sir, I didn't order facilities. I only asked for a telephone!" A customer could not care less about the complexities of our equipment, the cost, and how the job is to be done. He wants only the end result—telephone service.

I remember a friend of mine who told me about his boss' reaction to a long list of reasons and excuses why a particular assignment was not done. The boss said, "Well, Fred, I'm not the least bit interested in the labor pains, just show me the baby."

A customer seeks fair treatment in all business transactions with the company. He insists upon honest and straightforward statements. When a company representative makes a commitment the customer considers this to be an ironclad contract. When a commitment is not met he believes that this contract has been breached. Companies which gain the reputation of failing to live up to their word soon lose public esteem and confidence.



What Price Telephone Service?

WHAT is telephone service worth to a customer? I suppose every telephone executive would like to have a precise answer to this. I think an answer which comes very close is that a customer is willing to pay just as much as the service is worth, and no more. It is an insult to a customer's intelligence to ask him to pay something in addition to the value of what he is buying. The better the service the greater the value, and the more people are willing to pay. During the past few years most companies have had to reprice their services many times to keep up with inflation and the heavy investments which are being made to improve and expand telephone service.

In every instance a request for increased rates is tried twice; first before some government regulatory authority, and second before the bar of public opinion. I believe we can do a better job in the first area; I know we fail miserably in the second—convincing our customers of the need for adequate earnings.

Cost of Capital and Profits

WHEN I came to the Northwest (that is, Spokane, Washington) in May, 1958, the prime interest rate which General Telephone paid to borrow money from local banks for interim financing was 3½ per cent. Recently I received a call from the vice president of the bank with which we do business and he informed me that the rate was now 5 per cent. A full percentage point and a half in sixteen months. And as yet I have not heard a bank customer complain. However, when our company tries to raise telephone rates, say 25 cents or 50 cents a month, the roof collapses on us. Why? Because it does not do a good job of keeping our customers informed of what is happening to the business. Public relations, publicity, customer education, call it what you want—in this area it is not coming close to doing an adequate job.

Customers have a number of misconceptions about General Telephone. I have found in talking with customer groups that they sometimes look on it as rolling in money, with a guaranteed return on its investment and insured against the pressures of inflation, attrition, and competition which affect the earnings of all other businesses.

For some reason there are customers who believe that telephone companies should not make a profit. And profit is a word which is used too seldom in our business. We talk about "rate of return" and "net income" and a lot of other accounting entries that do not mean a thing to our customers. Profit is a good, clean American word. It is understandable. My eleven-year-old daughter knows what it is. So does my five-year old. She had a lemonade stand out in front of our house for a couple of days last summer. Business was evidently brisk because she would run in every so often and deposit a couple of pennies and a nickel in her bank. The third day Mrs. Barran said, "All right, Missy, you can set up the stand, but I want 50 cents for the lemonade mix." Missy thought for a moment, said "Gosh, Mom," and summarily went out of business.

I AM sure you have read about Diogenes, the ancient Greek philosopher who

went about the streets of Athens in broad daylight with lantern in hand searching for an honest man. I believe there is a great need for a modern-day Diogenes in the telephone business. One with the special kind of lantern which will find an honest telephone man. An honest telephone man who has the fortitude to stand up in a crowd and shout, "I am in business to make a profit!" An honest telephone man who is articulate enough to explain the meaning of the word "profit" and why it is essential to good telephone service and the perpetuation of the telephone business.

Views of Share Owner or Stockholder

LET us examine individuals, institutions, corporations, etc., which have invested their savings or the savings of their clients in the tools, equipment, and plant of American business. In a free economy such as one enjoys in this country, it is the investor to whom one looks for funds. And what does an investor expect from a company? He has the expectation of some financial reward. He knows that *his* company must make a profit in order to compensate him properly. A company which cannot reward its share owners with adequate returns is in a precarious position.

The pages of American business history are full of the thousands of companies which have been dashed against the rocks of disaster because they failed to give proper attention to the needs of their share owners.

IN THE telephone business the customer does not take the risk—it is the share owner. The cables, wires, central office switches, tools, vehicles, and other plant and equipment are purchased from funds supplied by the investor—money which he is willing to risk. But risk is predicated upon the opportunity for gain—the greater the risk the greater the financial gain expected. Gain to the share owner is possible only when the company is making sufficient profit to pay him in direct proportion to the risk he takes. The share owner wants the company to prosper and grow because he knows that this is the only way that the value of his investment can grow.

Telephone companies have only one source of income—money paid by their customers for services rendered. Telephone rates, then, must be adequate to cover the full costs of operation, including taxes, and leave enough over to pay the share owner a reasonable return on his investment—or a "profit" if you like.

THE share owner wants to know that the management and the employees of the company are working in his best interest. He has a big stake in the company and insists that his company be managed by competent people. And if the present management cannot do the job he expects, then he has a right to demand some changes.

The share owner also desires a company which provides good service, has good public and employee relations, and has financial integrity.

Quod Erat Demonstrandum

FOR contrast, and to summarize, let us now consider the eternal triangle in still another way: the matter of comparisons.

Recognition and complete job satisfaction are the ends for the employee. Good telephone service is the end for the customer. Profit is the end for the share owner.

To some extent the employee can be compelled. The customer and the share owner, however, must be persuaded.

All three must be communicated with in terms which are meaningful. The employee must recognize that he is part of a team employed to serve the customer and benefit the share owner. The customer must realize that good telephone service depends upon adequate compensation for the employee and the share owner. The share owner must see profit as the final result after providing the employee with good working conditions and the customer with complete telephone service.

This is the triple responsibility which people in the telephone business must live with day in and day out. In each business transaction, in every policy decision, in each order and action, the eternal triangle must be kept in perfect balance.

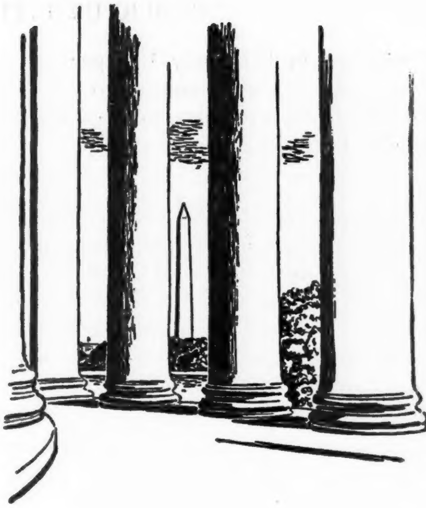
We Need to Know Where We Are Going

"IN other countries of the world, government ownership and operation of business, the means of production and distribution, is rightly called Socialism and Communism. Here in this country it is referred to as public ownership. Most influential promoters of this kind of economic system in this country even resent it being classified as socialistic or communistic. Here in this country the power vested in the federal government-in-business corporations or trusts has generally been used benevolently. It can, when taken over by an aggressive and ruthless political machine, be used despotically. The federal corporation or trust was the instrument employed by the Soviet Union to consolidate its power and to regiment the people and force its ideas onto them. If we want this kind of government, blanketing the nation with the TVA type of centrally controlled federal corporate authorities with power to supersede states' rights will be a big step in that direction.

"History reveals, and leading economists and students of sound government maintain, that no country can remain a free nation that undermines and destroys its productive private enterprise system, whether by slow motion or violent revolution. No heavily taxed and heavily regulated private enterprise can long survive against government corporations in the same business that are not also taxed and regulated on a basis similar to that forced onto private enterprise. Neither government-owned and -operated business nor government-created cartels provide a nation with a sound economic system based on the free operation of economic laws."

—EXCERPT from bulletin published by Pacific Northwest Development Association

Washington and the Utilities



Tax Hearings

ALTHOUGH it is not expected that Congress is going to do anything more than hold "educational" hearings on new tax legislation, both electric and gas industry witnesses have been preparing testimony. With politics dominating the 1960 scene, there is little likelihood of any real tax bill next year. The electric utilities would, of course, like to end the preference clause and unfair subsidies for government power.

Consumers of investor-owned electric companies must pay an average of 13 cents out of every dollar of their electric bills in federal taxes, E. Roy Gilpin, attorney for the electric industry, told the House Ways and Means Committee last month. He said a study for a 17-year period from 1942 through 1958 showed that tax-free power if sold by tax-paying companies would have yielded $2.7 billion to the federal Treasury. And in the next seventeen years, he stated that the government would receive $11.5 billion if tax-exempt public utilities paid taxes on the basis of investor-owned electric utilities. It was further argued that rendering electric utility service is not a governmental function but a proprietary one and should therefore be made to perform in competition with tax-paying enterprises.

THE electric utility industry attorney warned that tax inequities existing in federal, state, municipal government agencies, and electric co-operative corporations were unwarranted and if continued would only serve to increase the already heavy burden of investor-owned companies. He labeled the preference policy as one that relegated customers of investor-owned electric companies to the category of a "second-class citizen." He said the preference policy gives a preferred status to private citizens who buy power for personal uses through electric co-operatives. Such companies can buy power 30 per cent to 40 per cent lower than investor-owned company-produced power, he pointed out.

He cited the growth of preference customers' consumption of tax-exempt power. In 1946, he said preference customers took 37.8 per cent of the power available to nonfederal users. This ratio steadily increased until in 1957 it was 53.2 per cent. Meanwhile, the investor-owned companies and their customers in 1946 received 34.3

per cent and in 1957 only 15.5 per cent of such power. The committee to which Gilpin testified is studying ways to reform the federal tax system.

JUSTIFICATION of the 27½ per cent depletion allowance for oil and natural gas producers has been submitted to the House Ways and Means Commiteee by a top American oil official, in a brief in advance of panel hearings of the tax-writing committee now going on.

Selected by the American producers to present their case before the committee was Richard J. Gonzalez, top executive of Humble Oil & Refining Company of Houston, Texas. Only a half-dozen witnesses, of whom two are oil company representatives defending the allowance, have submitted papers, and presumably will be the only witnesses on the vital depletion issue. For the first time in many years, the House committee is opening up the depletion allowance subject for major discussion.

During the past several years there has been substantial agitation in Congress to cut the allowance for oil and gas to as much as 15 per cent. There have been votes in the Senate on the issue both this year and in 1958. Both attempts were decisively defeated. Nevertheless, the threat of eliminating or cutting the allowance first enacted by Congress in 1926 would be the subject of serious consideration when the Ways and Means Committee conducts its discussions.

In his prepared paper, which will be followed by verbal testimony, Gonzalez warned the committee that any change in the present law would seriously threaten the future security of the nation. Moreover, he declared, a reduction in the allowance would also hurt the future "economic progress" of the United States, and almost certainly result in less tax revenues from the oil and gas industries than now derived.

Atomic Developments

As little as $20 million is, research might be the key to opening up the door of competitive nuclear power. This was the prediction of Frank K. Pittman, director of the Atomic Energy Commission's reactor development division. He told the Atomic Industrial Forum, which met last month in Washington, D. C., that a competitive plant using the pressurized water concept could be constructed in the "near future" without any further experimental or prototype reactors. Of the six potentially competitive reactor systems, the pressurized water reactor can do the job soonest and easiest. Pittman reported that the pressurized water reactor in a plant producing 300,000 kilowatts of power would produce the power at an estimated cost of 9.28 mills per kilowatt-hour. By spending an additional $20 million in research and development, he asserted, this cost could be cut to a more competitive 7.81 mills.

An illustrated summary of the United States atomic power programs in which electric utility companies are participating has been recently released by the Edison Electric Institute. The publication notes that 131 electric power companies in the United States are participating in 26 nuclear projects. These projects include: three plants in operation, ten plants under construction, design, or contract negotiations, two plants in various stages of planning, 11 research, development, and study projects. This does not include the recently announced program of the Consumers Power Company to construct a boiling-water reactor plant in Charlevoix, Michigan, with a capacity of 50,000 to 75,000 kilowatts. Capacity of plants in operation

totals 72,500 kilowatts (ultimately 112,-500). Those under construction, design, or negotiation will ultimately total 927,-000 kilowatts. Others in various planning stages will total 400,000 kilowatts. An estimated 3.8 million stockholders are involved.

By the mid-1960's the Soviet Union expects to be generating about 600,000 kilowatts of power through atomic power stations, Professor V. S. Emelyanov, head of the Administration for Utilization of Atomic Energy in the USSR, declared recently in a press statement. There would be six stations involved, he said, with two generating 200,000 kilowatts each and four generating 50,000 kilowatts each. A spokesman for the AEC stated that the Soviet estimate of 600,000 kilowatts by the mid-sixties would put them slightly behind the United States in atomic power.

Professor Emelyanov pointed out that it would be pointless for the Soviets and the United States to engage in an atomic power race. Far more profitable, he said, would it be for both nations to co-operate in research to develop atomic power more rapidly and cheaply. Neither nation, he emphasized, actually needs to hurry into atomic development since each has plenty of conventional fuel resources.

The head of the AEC General Advisory Committee, Warren C. Johnson, recently told the Atomic Industrial Forum in Washington that he opposes the expressed demand of electrical industry representatives that government relinquish the reactor development business to them. Some industry men now take the view that commercial atomic power will come sooner if the AEC turns over to industry all of the reactor research and development work now being down in the AEC's national laboratories.

Johnson said that he did not believe industry can or should absorb all of the reactor developments that are being supported by the AEC and other government agencies. He questioned whether it was equipped with scientific man power and funds for exploratory work on reactors. He gave the interaction between laboratories and the universities as the most important reason for continuing the present setup. He said schools need the use of the equipment to maintain leadership in scientific research and provide training for promising young men and women. A report on these institutions is being prepared for the congressional Joint Committee on Atomic Energy, which is expected to hold hearings on the matter next spring.

A complete reappraisal of U. S. international atomic energy programs and policies will be made by Robert McKinney, editor and publisher of the *Santa Fe New Mexican*, according to Senator Anderson (Democrat, New Mexico), chairman of the Joint Committee on Atomic Energy. Editor McKinney recently returned from an inspection of nuclear facilities in western Europe, Poland, and the Soviet Union with members of the Joint Committee. He was the first permanent representative of the United States to the International Atomic Energy Agency, and served as chairman of the panel which made a study and report in 1955-56 on the impact of peaceful uses of atomic energy.

Senator Anderson termed McKinney "uniquely qualified to direct the study." The Senator stated he believed it was time to evaluate the purposes and accomplishments, or failures, involved in the co-operative programs the United States has under way with the International Atomic Energy Agency, Euratom, newly formed Inter-American Nuclear Commission, and more than 40 individual countries.

DR. EDWARD TELLER, "father of the hydrogen bomb," told a Columbia University symposium on energy that nuclear energy must be developed rapidly to conserve petroleum for mobile propulsion. He called nuclear fuel the most promising source of energy and said that refined nuclear fuel on a Btu basis is cheaper than gasoline or coal today. Conventional fuels must be supplemented, Teller declared, or "we will run out."

Herbert Hoover, Jr., former Under Secretary of State, predicted that natural gas may become the leading source of energy in this country. He pointed out that gas production on a Btu basis rose 115 per cent in the ten years ended in 1958 while oil production went up only 22 per cent. The rapid gain of natural gas, he explained, was the result of federal controls of natural gas prices at the wellhead. When regulation began, Hoover reported, the price of gas equaled 60 cents per barrel while crude oil prices averaged $3 a barrel.

District Transit Needs

A JOINT congressional committee, headed by Senator Bible (Democrat, Nevada), listened last month to a variety of proposals to plan long-range transportation facilities for the metropolitan area of the nation's capital. One feature of the hearings was a recommendation by the White House that top priority be given to developing a fast electric train service as a keystone for a greatly improved transportation network. Thirty-three miles of electric lines—half in subways—were proposed. A Budget Bureau official told the committee that the Eisenhower administration feels the federal Treasury should help out on the initial bill, but that it should be a loan rather than a permanent subsidy.

O. Roy Chalk, president of the District Transit System, is again proposing a monorail system. Chalk, who was to testify later, proposed a high-speed overhead monorail train network some time ago, but it ran into heavy opposition, based on cost, practicability, and appearance. His latest proposal is an alternative form—one based on the Lockheed system and the other on a French system.

Miscellaneous

CHANGES have been proposed in federal regulations to lengthen the term for oil and gas pipeline rights of way across Indian lands, according to a recent announcement by the Interior Department. Assistant Secretary of the Interior Ernest said the major effect of the proposed amendments would be to increase the permissible term on rights of way for oil or natural gas pipelines from twenty to fifty years. He explained that the 20-year limitation was originally adopted many years ago and has become obsolete because modern trunk pipelines are engineered to last much longer. Filing requirements for rights of way on Indian lands would also be simplified by the contemplated amendments.

Acting Interior Secretary Bennett has announced that ten western cities are under consideration for one of two brackish water conversion plants to be constructed by the government. A selection board will visit the following ten cities to determine which is most suitable for the construction of the water conversion facility: Wichita Falls, Stamford, Ballinger, Monahans, and Pecos—all in Texas; Carlsbad, Roswell, Alamagordo, and Santa Rosa in New Mexico; and Stafford in Arizona. It is anticipated that the site for the conversion plant will be announced in the early part of December.

Telephone and Telegraph

Facsimile Mail Being Considered by Post Office

An experimental machine which instantly transmits facsimiles from coast to coast has been announced by the Post Office Department. The machine could, theoretically at least, reduce the bottlenecks in first-class and air-mail deliveries. Word of the new development was "leaked" to a convention of the National Association of Postmasters and the carefully worded announcement did not specify if radio or wire circuits would be used.

It is understood that a number of business firms have objected to the department's assistance in the development of this facsimile system. Such a government-operated service could conceivably compete with privately operated point-to-point radio, telephone, and telegraph services. It could also lose the revenue and volume business now derived from the physical transportation of mail by train, plane, or surface carriers.

To send a letter by the facsimile machine, a handwritten or typed letter would be fed into the sending device. The machine would transmit the message to a receiving unit where a facsimile would be reproduced, folded, inserted in an envelope, sealed, addressed, and then sent on its way for home delivery. The original copy would be destroyed, thus insuring privacy.

So many questions have been raised, however, regarding this system that a conference was held in August at the White House. The outcome of this meeting seems to be that the government would keep the development on ice until the "potential damage" to business firms could be determined.

President Eisenhower is reported to have expressed "amazement and pleasure" at the speed and quality of facsimile transmission. In an experimental demonstration the President sent a message to a friend in Los Angeles 2,400 miles away. Within a few minutes the President had a reply from his West coast correspondent.

Western Union also announced that, on December 1st, it would initiate a facsimile service between Washington, New York, Chicago, San Francisco, and Los Angeles. The Western Union system will permit any written matter—on letter-size paper, excluding photographs—to be transmitted. Western Union has set up, as an initial project, four two-way circuits between the five cities, capable of handling 150,000 messages a year. The

cost of sending a $7\frac{1}{2}$-by-$9\frac{1}{2}$ facsimile transmission from Washington to San Franciso would be $7.90. In this space approximately 600 words might be used. The rate for the same number of words, if sent by telegraph, would be $36.95 for immediate delivery or $16.36 for a deferred message.

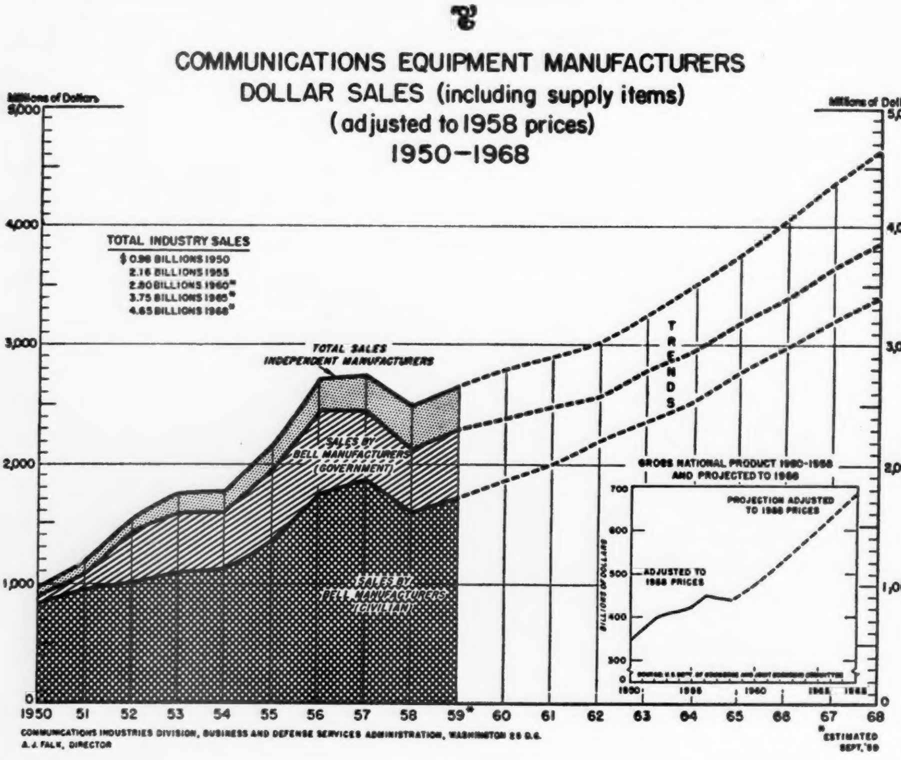
THE development of facsimile transmission is bound to have a serious, long-range effect on the various segments of the communications industry. It is difficult at this time to determine if the government expects to go into the full-scale facsimile transmission of mail or if it will permit private companies to occupy the field on what amounts to a telegraphic basis.

Communications Equipment Sales to Near $3 Billion

THE Communications Industries Division, Business and Defense Services Administration of the U. S. Department of Commerce, has predicted that the communications equipment manufacturing industry, facing a long-term expanding market, appears to be headed for a 1959 sales level approximating $2.65 billion, which would be about on a par with the previous peak of 1956.

The prediction is based on the assumption that this industry would be late in experiencing impact from the steel strike.

Coupled with the immediate outlook is a forecast that sales by 1968 should approximate $4.65 billion, approaching twice the 1958 figure—$2.48 billion.



In 1950, sales were slightly less than $1 billion.

The prospective trend in the next decade is based on the likely expansion of telephones in service to approximately 110.7 million units, and what is considered a moderate estimate of the country's population growth, business expansion, new homes, and gross national product. Technological improvements in the facilities and services offered by the operating communications companies and an expansion of the research and development activities of the manufacturers have also been factors in customer demand. To attain the levels forecast, considerable facility expansion and new construction will be required by the industry.

The communications equipment industry is producing equipment principally for the telephone and telegraph industries and highly specialized requirements for the military and government.

THE division forecast, designed to aid industry programing, has been subdivided into three categories: (1) total sales by Bell manufacturers (civilian), (2) total sales by Bell manufacturers (government), and (3) total sales by the independent manufacturers. The dollar sales have been converted into 1958 dollars and the trend indicates that the prospective percentage gain in sales is greater than the gross national product and population growth of the country for the corresponding period.

The accompanying chart illustrates the trends developed by the Communications Industries Division survey.

REA Telephone Meeting

REA Administrator Hamil and Harold L. Ericson, chairman of the REA Telephone Advisory Council, held a press briefing session in Washington on October 28th.

The meeting of the advisory council coincided with the celebration of the tenth anniversary of the establishment of the REA telephone loan program. The 17-man advisory group is composed of both independent and co-operative telephone company representatives.

Administrator Hamil noted that the REA expects the demand for telephone loans to increase in the next few years. This increase will represent the effort of rural telephone groups to install new and modern equipment. The demand may be so great, the Administrator said, that it may exceed the funds appropriated for the program.

He indicated that he would take appropriate steps should loan applications exceed available funds.

A number of members of the advisory council indicated that modern dial equipment is important in rural areas since the older types of telephone systems are no longer economically feasible.

Administrator Hamil pointed out that the telephone loan program is on as sound a basis as is the REA's electric loan program.

MR. ERICSON stated the advisory council would file a report concerning its recommendations, and also stated that the report would contain comments on the proposals to increase the 2 per cent interest rate on both telephone and electric loans.

However, both Mr. Ericson and Administrator Hamil declined comment on this subject until the advisory council's report is issued.

Financial News and Comment

By OWEN ELY

Favorable Outlook for 1960

Now that the nation has gained an 80-day reprieve from the steel strike through the delayed application of the Taft-Hartley injunction, it may be worth while to review the impact of the strike and try to gauge the outlook for 1960 and 1961.

While the strike is estimated to have cost about $5 billion, gross national product may still reach $480 billion or a gain of 9 per cent over last year. Recovery in steel output is faster than anticipated since most of the furnaces and crucibles were back on the job within eight days after the Supreme Court order. Operations were about 46 per cent for the first week compared with 13 per cent previously estimated; U. S. Steel and Republic were scheduling 70 per cent operations for the week beginning November 16th and other companies have set their sights even higher. The industry will make every effort to obtain maximum production, including overtime when needed.

The gain in steel operations is expected to restore a substantial part of the decline in the indexes of business activity. The *Times* business index advanced from 150 in 1950 to 210 in 1956, and again in early 1957. Within a year it had declined to 175, and it remained within the range 175-200 until late in 1958. It then advanced to a new high of 228 in June of this year, but the impact of the steel strike drove it down to 187 and the latest figure for the week ended November 7th was 191. *Business Week's* index has followed a similar trend—dropping from 152 in January, 1957, to 119 in March, 1958; then advancing to 158 in June, 1959, with a subsequent decline to 140. The FRB industrial index for October was 148—off only one point from September and August, and up ten points over last year; however, November will doubtless be down several points. The index of department store sales was 144 (estimated) for October compared with 135 in 1958.

Electric power output, bolstered by increasing residential and commercial business, has continued to show weekly gains over last year of 4 or 5 per cent; for the twelve months ended August 31st

DEPARTMENT INDEX

kilowatt-hour sales were up 9 per cent and revenues nearly 8 per cent.

Manufacturing and trade inventories totaled $89.1 billion at the end of September, a dip of almost $400 million from August, but above last year. Sales on the other hand gained $.4 billion to $59.9 billion despite the adverse effect of weather on retail sales. Total construction expenditures in September were $5.1 billion compared with $4.7 billion last year; and for nine months they totaled $40.2 billion, a gain of 13 per cent.

Consumer spending came back in October although September made a rather poor showing due perhaps to weather. Retail sales approximated $18.3 billion in October, in line with the record totals of May to August. Spending for durable goods showed a gain of 17 per cent over 1958, largely due to early introduction of new car models. Retail sales are expected to reach a new peak around $215 billion this year compared with the $200 billion of 1957 and 1958.

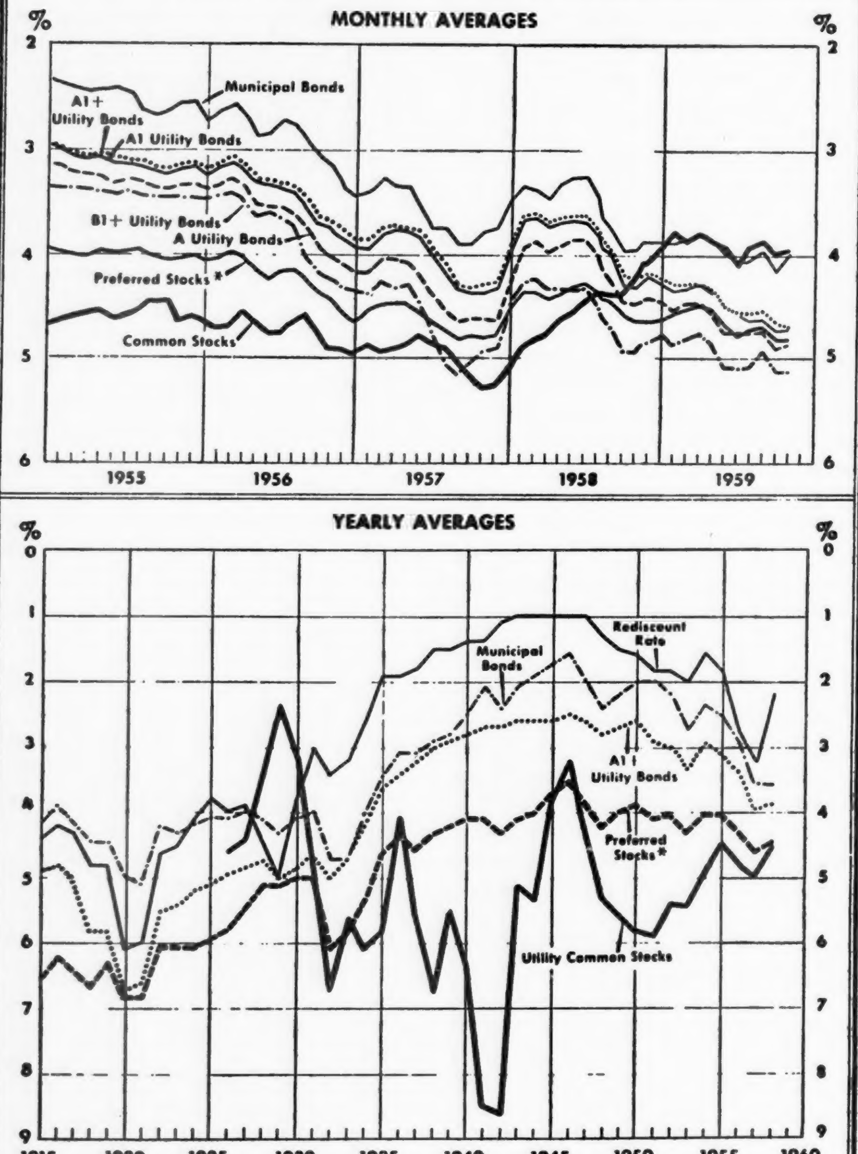
Consumer credit has advanced from a low of $42.6 billion early in 1958 to $48.4 billion recently, a gain of 14 per cent in about a year and a half. Instalment credit rose from $32.9 billion to $37.5 billion, although automobile paper (now $16.3 billion) increased only 11 per cent. The continued rise in consumer credit to new high levels has caused some apprehension among economists. Dr. Raymond J. Saulnier, chairman of President Eisenhower's Council of Economic Advisers, recently told the nation's bankers that in the past two or three months consumer credit has surged ahead faster than in the boom year 1955; he warned against a new expansion similar to the one that led to the 1957-58 recession.

The general level of economic prosperity depends substantially on the amount of capital spending. Hence the outlook for 1960—subject, of course, to the possibility of renewed strike troubles—seems improved by a projected increase of 10 per cent in capital spending by business next year, according to the McGraw-Hill survey published in *Business Week* of November 14th. Manufacturing industries are expected to spend 19 per cent more, led by the steel industry with a projected jump of 76 per cent, and pulp and paper 35 per cent, followed by 30 per cent for the automotive and rubber industries, 22 per cent for machinery (including electrical), 24 per cent for chemicals, 10 per cent for transportation equipment, 9 per cent for oil refining, etc.

Nonmanufacturing companies may make a poorer showing, however. Railroads are expected to spend 10 per cent more, other transport and communications 14 per cent, and commercial companies 9 per cent, while oil and mining will show moderate decreases—making the general average for nonmanufacturing 6 per cent. Electric and gas utilities are expected to spend over $6 billion next year, only slightly less than in the boom year 1957, but only 3 per cent over 1959.

Total business construction for 1960 is estimated at $37 billion, a gain of 10 per cent over 1959, and preliminary estimates for 1961 approach $35 billion. McGraw-Hill also thinks that final figures will be larger than these early estimates. (The impact of the steel strike is estimated to have reduced 1959 about 4 per cent.) Of the $37 billion expenditures in 1960, some $31 billion will be provided by internal funds, it is estimated; in fact, manufacturing companies will finance nearly all their needs without outside capital. Following is the McGraw-Hill estimate for leading industries (excluding commercial, real estate, and financial):

HISTORICAL YIELD TRENDS OF UTILITY SECURITIES



* Includes other preferred stocks in addition to utilities.

Standard & Poor's Index figures used

	External Financing For Capital Spending (Mills.) 1959 *Estimated*	1960 *Planned*
Manufacturing and Mining	$ 790	$ 781
Petroleum Industry	108	87
Railroads	304	299
Other Transport and Communications	1,507	1,922
Electric and Gas Utilities	3,110	3,265
Total	$5,819	$6,354

CAPITAL spending by business is, of course, only part of the overall construction picture—probably slightly over one-half. Residential building and farm construction are also important, as well as public building, maintenance work, etc. Residential building is expected to decline next year as a result of high money rates and a less plentiful supply of mortgage money, but public building (in an election year) should be well maintained. On an overall basis, construction in 1960 should probably equal and perhaps exceed 1959.

General opinion seems to be that unless the steel strike is renewed January 26th, when the Taft-Hartley injunction expires, the outlook for 1960 is favorable. (Even if it is renewed, Congress might be expected to pass legislation for compulsory arbitration.) The Morgan Guaranty Bank letter states:

> If the steel companies and the union reach an agreement within the injunction period, prospects will be excellent for a continuing advance in general business levels at least until the middle of 1960. Steel users will seek to rebuild inventories, and this task cannot be achieved until late spring at the very earliest, in view of the critically low level of steel stocks at present.

LOOKING further ahead, however, there seems to be a feeling in some quarters that there may be a moderate recession in 1961—maintaining the pattern of the postwar era. Vice President Butler of the Chase Manhattan Bank, speaking at a meeting of the American Petroleum Institute, predicted a shift toward a buyers' market in 1961, shrinking profit margins, and excess productive capacity. He thought that the rise in business activity in 1961 might taper off onto a plateau, followed by a general down turn.

Of course, money rates will continue to play an important rôle and at some point, especially if the Democrats win the White House in 1960, Congress might overrule the Federal Reserve Board and order a return to "cheap money." Thus far, the Treasury has worked out a favorable compromise with Congress' fiat that the long-term interest rate must remain at 4¼ per cent.

It has been able to place nearly $1 billion of notes with over 100,000 individual investors, and while this has caused a drain on savings institutions, it appears likely that the government paper is in safer hands than if it had been placed with banks which might liquidate it at any time.

The high short-term rates on government paper have helped to guard against a further outflow of gold, since foreigners are doubtless willing to keep larger amounts invested here when they are earning such a good return. Paul Heffernan of *The New York Times* thinks that the Treasury has another card which it could play—issuance of securities with no maturity date, like the "Consols" which were paid off in the 1930's; however, Congress might not like such a move.

MEANWHILE, Congress and the administration continue to worry over (1) inflation and the problem of keeping the budget in balance, (2) the danger of losing more gold, (3) increasing foreign competition due to lower wage levels, and

(4) the more rapid rate of gain in Russian production as compared with the United States.

To hold the military budget at $41 billion there will be further cuts in the armed forces (despite NATO weakness); the second atom-powered carrier will be eliminated, fringe benefits for troops cut, etc. Military procurement will be diverted from foreign to U. S. suppliers, and the same will be attempted for foreign economic aid. We are negotiating successfully with other countries to reduce discriminatory restrictions against U. S. goods and travel to the U. S. Direct restrictions on U. S. imports seem unlikely (except on oil); Japanese exporters have made some voluntary adjustments in textiles.

Allen W. Dulles, CIA Director, estimates that Soviet gross national product and industrial output are growing at two or three times the U. S. rate of 3 per cent. However, industrial and military growth is being forced largely at the expense of consumers.

Secretary of the Treasury Anderson has wisely pointed out that we should not make a fetish of growth:

> If we are to maintain our freedoms, the government cannot be the predominant factor in our nation's economic advancement. Its rôle must be to foster and facilitate growth—not to force it. Economic growth at an artificial rate, forced through unsound practices, can only cause the loss of some of our most cherished freedoms—or inflation—or both.

OCTOBER UTILITY FINANCING

PUBLIC OFFERINGS OF ELECTRIC AND GAS UTILITY SECURITIES

Date	*Amount (Mill.)*	*Description*	*Price To Public*	*Under-writing Spread*	*Offer-ing Yield*	*Aver. Yield For Securities Of Similar Quality*	*Moody Rating*	*Success Of Offer-ing*
10/9	$25	Columbia Gas Deb. (s.f.) 5⅜s 1984 ..	100.00	.92C	5.38%	5.00%	A	d
10/15	50	*Philadelphia Elec. 1st 5s 1989	101.09	.75C	4.93	4.74	Aaa	d
10/22	8	Western Mass. Elec. 1st 5⅜s 1989 ...	101.88	1.35C	5.25	4.79	Aa	b
10/23	12	*Rochester G. & E. 1st 5s 1989	100.78	.63C	4.95	4.79	Aa	b
10/27	25	*Northern Nat. Gas. S. F. Deb. 5⅛s 1979	100.00	.90N	5.13	4.90	A	a
10/28	20	Florida P. & L. 1st 5¼s 1989	101.52	1.09C	5.15	4.79	Aa	b
10/28	3	Wisc. Mich. Power 1st (s.f.) 5⅜ 1989	100.20	1.68C	5.25	4.90	A	d
10/29	20	Puget Sound P. & L. 1st 5½s 1989 ..	100.16	1.32C	5.40	4.90	A	b
10/30	8	Wisc. Pub. Ser. 1st (s.f.) 5¼s 1989 ..	101.52	.69C	5.15	4.90	Aa	c
		Preferred Stocks						
10/6	20	Northern Nat. Gas $5.60 (s.f.) Pfd. .	100.00	2.35N	5.60	—	—	a
10/21	15	Texas Gas Trans. 2nd Conv. 5¼% Pfd.	100.00	3.00N	5.25	—	—	a
							Earns.-Price Ratio	
		Common Stocks—Offered to Stockholders						
10/6	4	Madison Gas & Electric	47.00	—	4.30	—	8.3%	e
		Common Stock—Offered to Public						
10/15	58	American Electric Power	48.00	1.74C	3.75	—	4.9	d
10/29	21	Central & South West	60.00	1.49C	3.00	—	4.5	c

*Nonrefundable for about five years. C—Competitive. N—Negotiated. a—The issue was reported well received. b—The issue was reported fairly well received. c—It is reported the issue sold somewhat slowly. d—It is reported the issue sold slowly. e—Offered to stockholders on a 1-for-5 basis; reported oversubscribed.
Source, Irving Trust Company

Tax-free Dividends on Utility Stocks

WEALTHY investors searching for good tax-free yields may well consider the available returns from tax-free dividends on stocks of some former utility holding companies, together with those on a few of the operating company stocks. Electric Bond and Share, recently selling around 24$\frac{3}{4}$ on the American Exchange, has been paying \$1.40 per annum, but the rate was recently cut to \$1.20 because of the reduction in the American & Foreign Power dividend rate (stemming from its troubles in Cuba) from \$1 to 50 cents. This affords a yield of 4.8 per cent. The tax-free feature is expected to last for a considerable period of years, being based on the high prices paid for American & Foreign Power securities in the 1920's.

United Corporation, formerly a utility holding company, has been selling on the New York Stock Exchange around 8$\frac{1}{8}$; it paid 35 cents in 1959 and 1958, affording a return of 4.3 per cent. Standard Shares has also been paying 80 cents tax-free but the yield is lower on this issue. Abacus Fund (formerly International Hydro-Electric), listed on the New York Stock Exchange, pays dividends in stock of Gatineau Power Company.

STOCKS of electric operating utilities which paid wholly tax-free dividends in 1958 were California Oregon Power, yielding about 4.6 per cent; Detroit Edison, yielding 4.8 per cent; and Pacific Power & Light, yielding 4.4 per cent. It appears likely that the dividends on California Oregon Power will remain fully tax-free in 1959 and 1960, but after 1960 the percentage may decline and it is uncertain whether any part of the dividend will be free of income tax after 1963, when accelerated amortization will run out. The fact that Detroit Edison's divi-

CALENDAR OF PROPOSED UTILITY OFFERINGS

December 1, 1959, to February 28, 1960

Date of Bidding Or Sale	*Approx. Amount (Millions)*		*Method Of Offering*	*Moody Rating**
		Bonds and Debentures		
12/1	\$75	Consolidated Edison	C	Aa
12/2	30	General Tel. of Calif.	C	A
12/3	16	Arkansas Louisiana Gas	N	—
12/7	8	Worcester County Elec.	—	Aa
12/8	15	Arkansas Power & Light	C	A
12/9	4	Missouri Power & Light	C	A
12/14	20	Dallas Power & Light	C	Aaa
12/15	30	Bell Telephone of Penn.	C	Aaa
1/6	20	Kansas City P. & L.	C	Aaa
1/19	8	Louisiana Gas Service	C	—
1/	5	Hawaiian Telephone	—	—
		Preferred Stocks		
12/8	3	Fall River Electric Light	C	—
12/9	10	New England Power	C	—
		Common Stock—Offered to Public		
12/15	30	Public Service E. & G.	N	—
1/	2	Savannah Elec. & Power	C	—
2/3	6	Tampa Electric	N	—

*Preliminary, or rating of similar issues.

dend was fully tax-free last year was due largely to payment of a double local tax, which is nonrecurring, hence the tax-free proportion will decline this year. Pacific Power & Light preferred and common dividends, on the other hand, will probably remain fully tax-free for about five years, due to accelerated amortization in connection with the company's large hydro projects.

Other electric utilities whose 1958 dividends were substantially tax-free were California Electric Power (79 per cent), Hartford Electric Light (78 per cent), Niagara Mohawk Power (77 per cent), Portland General Electric (78 per cent), and Washington Water Power (89 per cent). Among the natural gas companies, Northwest Natural Gas dividends were fully tax-free last year, and those of El Paso Natural Gas were 84 per cent tax-free, while the percentage for Transcontinental Gas Pipe Line was 63 per cent.

It should be noted that "tax-free" refers only to nonpayment of current income taxes; the holder of the stock will have to pay a capital gains tax on the dividends when he finally sells the stock at some future date (the procedure being to mark down the cost of the stock by the amount of the dividends received).

RECENT FINANCIAL DATA ON GAS UTILITY STOCKS

Annual Rev. (Mill.)			11/11/59 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earn. 1953-58	Price-Earns. Ratio	Div. Pay-out	Approx. Common Stock Equity
		Pipeline and Integrated Systems									
$ 5	O	Ala. Tenn. Nat. Gas.	26	$1.20(k)	4.6%	$1.46Je	8%	11%	17.8	82%	40%
205	S	American Nat. Gas	58	2.60(L)	4.5	4.27Se	12	7	13.6	61	39
76	A	Arkansas Louis. Gas	60	1.20	2.0	3.08Je	46	55	19.5	39	53
55	O	Colo. Interstate Gas	43	1.25	2.9	2.71Je	NC	8	15.9	46	24
427	S	Columbia Gas System ...	21	1.00	4.8	1.31Je	D10	18	16.0	76	42
7	O	Commonwealth Gas	7	—	—	.49De	22	—	14.3	—	77
19	O	Commonwealth N. G. ...	23	1.00	4.3	1.57Je	D2	10	14.7	64	47
11	S	Consol. Gas Util.	20	.90(b)	4.5	1.60Jy	3	7	12.5	56	57
304	S	Consol. Nat. Gas	48	2.10	4.4	3.07Je	D11	9	15.6	68	60
19	O	E. Tenn. Nat. Gas	11	.60	5.5	.85Se	D8	16	12.9	71	25
368	S	El Paso Nat. Gas	30	1.30	4.3	1.61De	D2	—	18.6	81	17
50	S	Equitable Gas	35	1.60	4.6	2.62Se	19	5	13.4	61	44
34	O	Houston N. G.	28	.80	2.9	1.45Jy	D15	9	19.3	55	18
21	O	Kansas Nebr. Nat. Gas ..	42	1.80(f)	4.3	3.07Je	21	9	13.7	59	36
113	S	Lone Star Gas	40	1.80	4.5	2.32Se	2	8	17.2	78	43
77	S	Miss. River Fuel	34	1.60	4.7	2.08Ma	NC	5	16.3	77	48
28	S	Montana Dakota Util. ..	30	1.20	4.0	1.72Se	5	12	17.4	70	29
26	O	Mountain Fuel Supply ..	25	1.20	4.8	1.76Je	7	3	14.2	68	51
94	S	Natl. Fuel Gas	24	1.15	4.8	1.91Se	34	6	12.6	60	56
139	S	Northern Nat. Gas	29	1.40	4.8	1.71Je	—	8	17.0	82	33
43	S	Oklahoma Nat. Gas	27	1.24	4.6	1.93Jy	18	5	14.0	64	34
121	S	Panhandle East. P. L. ...	43	1.80	4.2	2.74De	—	2	15.7	66	40
15	O	Pennsylvania Gas	25	1.20	4.8	2.13De	D2	20	11.7	56	59
188	S	Peoples G. L. & Coke ...	59	2.30	3.9	3.83Se	23	4	15.4	60	41
26	O	Pioneer Nat. Gas	42	1.60	3.8	2.10De	D1	9	20.0	76	43
104	S	Southern Nat. Gas	37	2.00	5.4	2.07Jy	NC	—	18.0	97	43
41	O	Southern Union Gas	25	1.12	4.4	1.40De	D9	8	17.9	80	27
402	S	Tenn. Gas Trans.	32	1.40	4.4	1.70Se	2	13	18.8	82	21
266	O	Texas East. Trans.	28	1.40	5.0	1.97Se	D24	13	14.2	71	21
104	S	Texas Gas Trans.	30	1.40	4.7	2.14Je	13	3	14.0	65	31
115	O	Transcont. Gas P. L.	24	1.00(b)	4.2	1.50Se	3	13	16.0	67	19
318	S	United Gas Corp.	33	1.50	4.5	2.39Se	D1	4	13.8	63	42
		Averages			4.4%		5%	9%	15.7	68%	

Annual Rev. (Mill.)		(Continued)	11/11/59 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earn. 1953-58	Price-Earns. Ratio	Div. Pay-out	Approx. Common Stock Equity
		Retail Distributors									
32	S	Alabama Gas	30	$1.60	5.3%	$1.99Je	D27%	11%	15.1	80%	36%
53	O	Atlanta Gas Light	37	1.80	4.9	2.41Au	D8	9	15.4	75	34
3	O	Berkshire Gas	19	1.00	5.3	1.30Au	7	6	14.6	77	41
7	A	Bridgeport Gas	32	1.68	5.3	2.63Je	24	7	12.2	61	46
6	O	Brockton-Taunton Gas ..	19	1.00	5.3	1.30De	10	18	14.6	77	46
79	S	Brooklyn Union Gas	28	1.20	4.3	1.63Se	1	8	17.2	73	44
41	O	Central Elec. & Gas	23	1.05	4.6	1.78Je	15	9	13.1	59	17
13	O	Cent. Indiana Gas	14	.80	5.7	.75Se	D33	13	18.7	107	57
6	O	Chattanooga Gas	5	.35	7.0	.38F	D31	13x	13.2	92	43
15	O	Consolidated Gas	38	1.60	4.2	2.45Jy	D23	13	15.5	66	78
68	O	Gas Service	33	1.52	4.6	2.43Se	D9	11	13.6	63	36
9	O	Hartford Gas	42	2.00	4.8	2.45Je	16	—	17.1	82	51
3	O	Haverhill Gas	29	1.60	5.5	2.10Se	5	11	13.8	76	53
20	O	Indiana Gas & Water ...	25	1.00(b)	4.0	1.51Se	D3	9	16.6	66	45
52	S	Laclede Gas	20	.90	4.5	1.13Je	D17	5	17.6	80	34
6	O	Mich. Gas Utils.	24	1.05	4.4	1.53Je	16	4	15.7	69	34
44	O	Minneapolis Gas	30	1.50	5.0	2.07Je	12	5	14.5	72	46
17	O	Miss. Valley Gas	25	1.20	4.8	2.01Je	D16	7	12.4	60	34
6	O	Mobile Gas Service	26	1.10	4.2	1.25Se	D29	6	20.8	88	37
8	O	New Haven Gas	38	1.90	5.0	3.07De	30	11	12.4	62	67
15	O	New Jersey Nat. Gas ...	46	1.80	3.9	2.66Je	D2	—	17.3	68	34
91	O	No. Illinois Gas	31	1.00	3.2	1.72Se	24	—	18.0	58	54
10	O	North Penn Gas	11	.60	5.5	.81De	4	10	13.6	74	60
18	O	Northwest Nat. Gas	18	.72	4.0	*1.25Se	33	—	*14.4	58	36
285	S	Pacific Lighting	47	2.40	5.1	2.58Se	D12	8	18.2	95	42
11	O	Piedmont Nat. Gas	17	.50	2.9	.73Se	D21	15	23.3	68	31
2	O	Portland Gas Lt.	17	.75	4.4	2.31De	128	21	7.4	32	27
10	A	Providence Gas	10	.56	5.6	.64Jy	D1	5	15.6	88	50
4	A	Rio Grande Valley Gas ..	4	.16	4.0	.38Je	20	9	10.5	42	55
6	O	So. Atlantic Gas	15	.80	5.3	1.22Se	27	5	12.3	66	32
14	S	So. Jersey Gas	24	.90	3.8	1.26Je	9	14	19.0	71	50
34	S	United Gas Impr.	53	2.40	4.5	3.45Se	13	5	15.4	70	54
60	S	Wash. Gas Light	48	2.24	4.7	3.48Se	4	10	13.8	64	37
14	O	Wash. Nat. Gas	20	(g)	—	1.24Je	135	5	16.1	—	40
10	O	Western Ky. Gas	17	.60(i)	3.5	1.36Je	D10	3	12.5	44	41
		Averages			4.7%		8%	10%	15.2	70%	

RECENT FINANCIAL DATA ON TELEPHONE, TRANSIT, AND WATER STOCKS

Annual Rev. (Mill.)			11/11/59 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earn. 1953-58	Price-Earns. Ratio	Div. Pay-out	Approx. Common Stock Equity
		Communications									
$6,771	S	Amer. T. & T. (Cons.) ..	79	$3.30	4.2%	*$5.05Au	12%	4%	*15.6	65%	65%
329	A	Bell Tel. of Canada	43	2.00	4.7	2.14De	7	—	20.0	93	64
47	O	Cin. & Sub. Bell Tel.	91	4.50	4.9	5.15De	5	—	17.7	88	76
255	A	Mountain Sts. T. & T. ...	168	6.60	3.9	9.51Se	4	4	17.7	69	76
354	A	New Eng. T. & T.	36	1.72	4.8	2.19Se	28	6	16.4	79	62
937	S	Pacific T. & T.	29	1.14	3.9	1.35Au	16	1	21.5	84	61
119	O	So. New Eng. Tel.	45	2.20	4.9	2.75Je	13	7	16.4	80	61
		Averages			4.4%		12%	3%	17.9	79%	
		Independents									
6	O	Anglo-Canadian Tel.	36	$1.20	3.3%	$3.13Se	1%	21%	11.5	38%	52%
45	O	British Col. Tel.	42	2.00	4.8	2.11Je	1	—	19.5	95	28

Annual Rev. (Mill.)		(Continued)	11/11/59 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earn. 1953-58	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
4	O	Calif. Inter. Tel.	15	.70	4.7	.98Je	12	NC	15.3	71	24
22	O	Calif. Water & Tel.	26	1.28	4.9	1.79De	36	2	14.5	72	37
20	O	Central Tel.	28	1.00(b)	3.6	1.94Je	7	5	14.4	52	33
5	O	Commonwealth Tel.	19	.90	4.7	1.35Je	D6	15	14.1	67	35
5	O	Florida Tel.	29	1.00	3.1	1.21My	21	—	26.4	83	42
552	S	General Tel. & Elec.	76	2.20	2.9	3.12Se	3	NC	24.4	71	34
21	O	Hawaiian Telephone	21	1.00	4.8	1.24Se	25	4	16.9	80	44
8	O	Inter-Mountain Tel.	16	.80	5.0	.91De	D3	—	17.6	88	54
23	S	Rochester Tel.	26	1.00	3.8	1.59Je	16	4	16.4	63	33
11	O	Southwestern St. Tel. ...	24	1.20	5.0	1.36Je	D14	—	17.6	88	37
38	O	United Utilities	38	1.25	3.3	1.64De	6	3	23.2	76	36
16	O	West Coast Tel.	25	1.20	4.8	1.56Je	21	—	16.0	77	32
255	S	Western Union Tel.	46	1.20	2.6	1.89De	D7	—	24.3	63	85
		Averages			4.1%		8%	8%	18.1	71%	
		Transit Companies									
20	O	Baltimore Transit	10	$1.00	10.0%	$ .58De	D43%	—	17.2	172%	48%
12	O	Cincinnati Transit	7	.30	4.3	.31De	D40	—	22.6	97	54
65	S	Fifth Ave. Lines	14	—	—	.02De	D99	—	—	—	75
305	S	Greyhound Corp.	21	1.00(o)	4.8	1.23De	1	—	17.1	81	50
25	S	Nat. City Lines	29	2.00	6.9	1.69De	D38	—	17.2	118	94
13	O	Niagara Frontier Trans. .	10	.60	6.0	.10De	D87	—	—	—	67
17	A	Pittsburgh Rys.	13	.25	1.9	.03Se	—	—	—	—	90
6	O	Rochester Transit	6	.40	6.7	.86De	34	9	7.0	47	100
21	O	St. Louis P. S.	11	1.00	9.1	.68De	4	—	16.2	147	97
14	S	Twin City R. T.	9	—	—	.24De	D70	—	—	—	65
19	O	United Transit	7	.60	8.6	.75De	D4	—	9.3	80	55
		Averages			6.5%		D 34%	—	15.1	106%	
		Water Companies									
		Holding Companies									
43	S	American Water Works .	14	$ .60	4.3%	$1.18Je	22%	—	11.9	51%	19%
		Operating Companies									
5	O	Bridgeport Hydraulic ...	32	$1.70(f)	5.3%	$1.75De	D15%	2%	18.3	97%	53%
16	O	Calif. Water Service	26	1.20(j)	4.6	1.74Se	11	1	14.9	70	36
4	O	Elizabethtown Water ...	49	2.00	4.1	3.78De	D3	11	13.0	53	59
11	S	Hackensack Water	49	2.00	4.1	3.29De	D5	—	14.9	61	35
9	O	Indianapolis Water	24	1.00	4.2	1.22De	D4	5	19.7	82	36
6	O	Jamaica Water	42	2.20	5.2	3.24Je	D2	1	13.0	68	27
5	O	New Haven Water	67	3.40	5.1	3.32De	9	5	20.2	102	61
2	O	Ohio Water Service ...	29	1.50(b)	5.2	1.75Se	7	—	16.6	86	31
9	O	Phila. & Sub. Water	52	1.60(P)	3.1	2.75Je	D7	—	18.9	58	27
2	O	Plainfield Un. Water ...	60	3.00	5.0	4.31Ma	D3	3	13.9	70	64
5	O	San Jose Water	32	1.30(f)	4.1	2.14Se	26	12	14.9	61	41
11	O	Scranton-Springbrook ...	20	1.00	5.0	1.65Je	D1	4	12.1	60	25
5	O	South. Calif. Water	20	1.00	5.0	1.32Se	20	6	15.2	76	33
4	O	W. Va. Water Service ..	22	.68(d)	3.1	1.66**	7	—	13.3	41	18
		Averages			4.5%		3%	4%	15.6	70%	

A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. NC—Not comparable. NA—Not available. D—Decrease. *On average shares. **Includes tax savings from accelerated depreciation. (a) Adjusted to eliminate 13 cents per share of nonrecurring tax savings. (b) Also stock dividend December 7, 1959. (d) Also one per cent stock dividend quarterly. (e) Also 10 per cent stock dividend May 19, 1958. (f) Includes extras. (g) Five per cent stock dividend April 10, 1959. (i) Also 5 per cent stock dividend December 29, 1958. (j) Also 5 per cent stock dividend March 19, 1959. (k) Also 20 per cent stock dividend March 9, 1959. (L) Also 10 per cent stock dividend June 10, 1959. (n) Excludes profit realized on sale of Los Angeles Transit $3.81 per share. (o) Also 5 per cent stock dividend June 30, 1959. (P) Also 3 per cent stock dividend January 7, 1960. x—1952-57.

What Others Think

People Are More Important than Power

PUBLISHER Loyal Phillips, president of the St. Petersburg *Florida Independent* and the Petersburg, Virginia, *Progress-Index,* expressed his views on the public relations shortcomings of the utility industry at the forty-first annual meeting of the Public Utilities Association of the Virginias in September.

Phillips described himself as a great believer in the free enterprise system. He gave some quotations from a couple of utilities on public relations. He quoted Cooper Green, vice president of Alabama Power Company:

> We often fail to reach through our regular communications media, our rural families, organized labor, and others who must be shown and convinced that our major objective is to help develop our state. This is a major weakness in the public relations programs of southern utilities. Also, we must do a better job of educating our employees and stockholders so they can help us enlighten others. In this connection, we can make good use of county weekly newspapers. Our biggest problem is our failure to make our program known to the rank and file of our citizens.

Phillips related that Carl D. Brorein, president of General Telephone Company of Florida, called public relations an invisible asset on the balance sheet, and one which, more than any other, accounts for what we term "going concern" value. Brorein also said public relations means "earning a good reputation with the public and establishing the business in the public mind as an institution of character and one which functions in the public interest."

"Public relations is an operating philosophy that management must seek to apply in everything it does and says," was another quotation given by Phillips (author unknown). "It is the philosophy of saying sincerely things people like—and saying them the way they like. It is the philosophy of doing things people like—and doing them the way they like. . . . the doing is more important than the saying. But the doing alone is not enough."

PHILLIPS lauded the utility industry for its skill in solving the myriad problems of generating and distributing modern electric service and of keeping rates down. He said the utilities were more than competent in financing and other business problems, but he felt they were deficient in solving problems relating to people, both inside and outside the company area, stockholders, customers, and also political leaders. Phillips stated:

It has been my observation that, unfortunately, utilities have not yet demonstrated the same skill in solving these problems which relate to people as you have demonstrated in solving your technical and financial problems.

Let me remind you of some of the problem you face: 1. In the last thirty years, the share of your utility industry which has fallen into the hands of the government has increased from 7 per cent to 25 per cent. 2. The rural electric co-operatives, which were supposed to take care of just the farmers back in the hills, now surround your service areas and are beginning to compete with you in communities and towns. 3. The federal government has, in recent years, developed a lot of federal hydroelectric plants and continues to threaten you with ownership of atomic power plants which can be built near any of your big cities.

PHILLIPS commented that while such threats are serious, there is still room for optimism. He gave a few high lights from a survey made a couple of years ago on "Free Market *versus* Socialistic Thinking." This question was put to many groups such as teachers, clergymen, and business executives: "Summing it all up, do you think people get the best chance of reaching higher wages, more benefits, and a better standard of living through the help of the government, or through the free enterprise system?" The answers showed that about 70 per cent of the people favored the free enterprise system, with only 20 per cent favoring the government; 10 per cent had no opinion. This indicates, Phillips pointed out, that while about one-third of the people do not care or prefer government ownership, two-thirds have resisted the "something for nothing" doctrine, which is certainly in the utilities' favor. He stated:

Why, you may ask, with two-thirds of the people on our side, are we losing the battle? I hope I am wrong, but I am afraid you are losing the war by default. You are simply not doing a thorough job of telling the people the good things about your great industry. You need to identify your companies more with the public interest. You need to tell people over and over again the good things about your companies—the plus values that go along with your modern electric service. You need to get your employees more thoroughly sold on the importance of the contribution you are making to the community. You leaders need to speak out more often on the subject.

UTILITIES must make more news, Phillips declared, and he suggested that they also use more advertising to tell people about what a great bargain they are getting for their money. Here are a few suggestions he made of what should be done:

1. Start immediately to form an overall public relations department that has the responsibility of reporting to top management.

2. You should let the supervisor of this department have an adequate staff and budget to do the job well. A few thousand dollars will not break your company, but believe me it can help mightily in telling a story that sorely needs telling.

3. Once you get the staff, have the department prepare a program of specific objectives for this year and next.

4. Make sure that you have the finest possible relations with your customers, your community, and especially your press.

Phillips also emphasized that in addition

to these suggestions it was imperative that each top utility executive should realize that his company won't get any better public relations than he demands. Unless the officers of the company are sold on public relations and want to do something about it, the efforts of the public relations department will not be fully effective.

THESE are the impressions Phillips said he has of the public relations performance of utilities in the past:

> You are the *jugular vein* of our national security and the *heart beat* of our economy. However, public relations-wise you have acted like a freckle-faced, bashful country boy at the ice cream social.
>
> The small type on your annual statement proves beyond a shadow that you are playing the rôle of a he-man in America's commerce. *Yet* your public relations performance never seems to let the people know whether you are *men or mice*. . . . Has the cat got your tongue?

Despite the fact that utility executives are well-known and liked in every strata of the community's activities and that lots of money is spent to convince the community that utility people are nice people, utilities continue to hide their light under a bushel, Phillips believes. He said he does not believe the utilities have told their story of accomplishment as well as some other industries, especially achievements made by them during World War II and the war in Korea. He asked, "Are you operating under some sort of self-imposed censorship? Otherwise, why are you so timid?"

Phillips called attention to the fact that under inflationary trends as they are today, more and more rate increases are in the offing for utilities. He said he wonders if utilities are adequately preparing the public for these rate increases. In his opinion the public is willing to pay more if it thinks the service is worth more Publisher Phillips thinks utilities could do much more to dramatize the benefits and minimize the cost of the service they offer. To point up the fact that the cost of something is relative, he told the story of a sale by a salesman:

> A young business machine salesman in Chicago called on Marshall Field to sell a new type of machine. After enthusiastically dramatizing what the machine would do for Marshall Field, the salesman lost his courage when the purchasing agent asked the price. The young salesman gulped three gulps and then admitted apologetically that the price was $3,000. He almost lost his voice when the purchasing agent said, "Oh well, at that price, what can I lose? Send us three of the machines."

PHILLIPS stated that utilities might do well to follow the advice of sales experts by trying harder to tell the whole story about the value of the services they offer. He said he personally does not believe in public power because he thinks "a business operated by the government would spend more money, earn less profits, pay lower salaries, and offer poor service."

Furthermore, he said, public power would mean a loss of tax revenue and a step toward Socialism. He said utilities should not take people like him for granted, however, and said he might be swayed by aggressive propaganda campaigns. But if utilities would learn how to talk intelligently and adequately, he said, such a possibility would be avoided.

Latin American Electric Power Study

THE International Bank for Reconstruction and Development and the secretariat of the United Nations Economic Commission for Latin America have collaborated in the publication of a book entitled *"Electric Power Regulation in Latin America,"* written by David F. Cavers, professor of law, Harvard University, and James R. Nelson, professor of economics at Amherst College.

The common interest of the International Bank and the U. N. Economic Commission led them to request the Harvard Law School to conduct a study of Latin American laws and administrative systems governing the operation of electric utilities, with particular emphasis on the problems associated with financing capital expansion. The book is based on a study which was conducted in Brazil, Chile, Colombia, Costa Rica, and Mexico .

The publication notes that the countries of Latin America have experienced great difficulty in installing electric power capacity sufficient to keep pace with the expanding demands from the rapid growth of cities and industries. Both the World Bank and the Export-Import Bank have provided large amounts of finances; however, the electric industry has not been able to attract sufficient domestic savings for its additional capital needs.

The study disclosed that Latin American electricity rates have been held well below the average rates prevailing in the United States. The economic consequence of this policy leads the authors to conclude that "What a developing nation needs more than cheap electricity is plentiful electricity and the best way to get it is to pay what the service costs."

PROFESSORS Cavers and Nelson make three suggestions as possible corrective actions for the electric industry in Latin America. These corrective guides are not specifics for any particular country. They are guides formulated as a result of the study and they only reflect a general corrective approach.

> *First, the industry should be able to adjust its rates rapidly enough so that operating cost increases will not prevent it from realizing an adequate level of earnings.*

By the time rate changes are made, costs, which necessitated the change in the first place, have quite often shifted again. The authors, therefore, suggest "automatic compensatory adjustments" for cost increases and decreases in the following cases: (1) fluctuation in the price of fuel; (2) increases or decreases in an index constructed to reflect the principal costs of operation and maintenance; (3) increases or decreases in the rates of taxes applicable to the utility; (4) increases or decreases in the exchange rate for the dollar or other foreign currency.

> *Second, as a means of enabling the industry to compete with unregulated investment opportunities for national savings and foreign investments, provision should be made for regular adjustments in the capital accounts of electric enterprises, public as well as private, to reflect significant changes in the domestic price level and, when relevant to outstanding securities, in the exchange value of the national currency.*

AS a corrective procedure under this category the authors would allow the utility, in calculating its revenue requirements, to base such estimates wholly on the capital accounts of the enterprise cur-

"WHY DOES PERSONNEL ALWAYS PICK THE SHORT GUYS FOR METER READERS?"

rently valued each year and more often when rapid price rises take place. The cost-of-living index is suggested as the basis of revaluing the capital accounts since that index measures roughly the value of the investment.

THE rate of return should represent a weighted average of the rates of return on the respective elements in the capital structure of the electric industry. The main problem in this category would be posed by the equity shares or by the proprietary interest in a government power authority.

Concerning depreciation, the authors suggest that the rate of return should be applied to the capital, rather than the property and it would, therefore, not be necessary to reduce the investment base by the amount of depreciation accruing annually. This accrual would be held in reserve and used for reinvestment in the enterprise.

Third, the regulatory authority (and

any financial authorities having jurisdiction) should be prepared to approve forms of securities that are adapted to the industry's needs in an inflationary economy. They should adopt measures, where necessary, to open up markets for the distribution of those securities among institutional investors and perhaps should require investment by such of the electric industry's business and even residential customers as make especially heavy demands upon its capacity.

THE authors note that in Latin America there exists a "long alienation of investors" from the industry. They stress, therefore, that it is most important that (a) investors be protected against persistent price inflation; (b) institutional investors be encouraged to acquire electric industry securities; (c) Latin America's power-using industries might be required to make more substantial contributions to the electric industry's capital needs; (d) the concept of compulsory annual subscription to an attractively designed electric security might be extended beyond industrial users to the commercial and larger residential consumers.

As to the classical controversy over rate base and the allowable rate of return, Professors Cavers and Nelson find that economic differences in Latin America have made the rate base issue more important in Latin American countries than it is now in the United States (page 114). This is understandable in view of the more persistent and volatile inflationary experience there. Chile, being the earliest to regulate by statute, adopted reproduction cost as the rate base standard. Mexico and Brazil, with qualifications, adopted original cost. The Colombia statute calls for "actual investment" and the Costa Rica law provides for a return on "the capital invested." But there are signs noted in a 1958 general corporation re-evaluation statute (page 117), in Brazil, which indicate that the strict cost standard is under pressure and may be breaking down under the stress of inflation.

PROFESSORS Cavers and Nelson, as noted from their recommendations already referred to, apparently feel that modern index methods, applied to capital accounts, may provide a workable comparison. The commentary of the authors, on the whole, is quite objective and betrays a discerning background of regulatory history and trends as well as a sensitivity to equitable and economic requirements, which make their expression of views well worth serious consideration.

The North American readers of this volume will probably be most interested in a comparison of regulatory methods used in the five Latin American countries reviewed. One striking difference is the fact that the Latin American regulatory authorities have been given jurisdiction quite generally over the rate of governmentally owned and operated utility services, as well as those of investor-owned utility services. (In the United States, the predominating practice is to exempt so-called publicly owned utility operations from state and federal regulatory control.)

Perhaps the more political form of Latin American regulations has something to do with this failure to exempt autonomous government utility operations. For the most part, the Latin American countries do not regulate through independent commissions, but use a direct ministerial form of control, comparable to regulation by a cabinet department in the United States (such as the regulation of stockyards by the Secretary of Agriculture). The volume says of this fiat form of regulation (page 111):

In comparison with the United States, greater reliance has been placed in Latin America on specific statutory standards than on the discretion of the regulatory bodies. Moreover, the latter are ordinarily placed within one of the ministries of the government, and their orders are therefore subject to the approval of a high political official. Judicial review of commission action is relatively limited and infrequent.

THE subject of electric power regulation is one of importance throughout the world.

No previous study, however, has been made of the problems of policy and the methods involved in pricing of electricity in developing nations. The suggested changes in regulatory policies have been made in light of the comparative appraisal of the policies being followed in the United States of America. This work, therefore, should interest not only the student of public utility rates, but also those interested in economic development and international investment.

—C. M. B.

ELECTRIC POWER REGULATION IN LATIN AMERICA, by David F. Cavers and James R. Nelson. 279 pp., Index. Price $6. John Hopkins Press, Baltimore, Maryland.

More Light on Atomic Power Costs

SOME time ago Dean A. McGee, president of Kerr-McGee Oil Industries, Inc., presented a nuclear power report to the Energy Industries Forum, conducted as part of the 1959 midyear meeting of the Independent Petroleum Association of America.

In his account of the beginnings and development of nuclear energy, Mr. McGee showed clearly that the nuclear power industry was totally unlike the other energy industries. He discussed the fuel aspects of nuclear energy at some length and stated that fissionable materials are not abundantly available in nature in a usable state without processing. He said:

> The only element which exists in nature that can be used as a fission fuel is U-235, which is present as one part in 140 of natural uranium. The other 139 parts are U-238 which is not a fission fuel. There are two artificially produced elements which can act as fission fuels. These are U-233 made from thorium and plutonium 239 made from U-238. Basically, therefore, all fuel cycles must start with uranium or thorium.

Processing of uranium produces a fuel which has a number of unique characteristics. Chief one is its very high energy content per unit of weight. Because of this high energy content per unit, McGee said, it is possible that nuclear fuels will eventually equalize power costs throughout the world by making transportation of fuel a minor part of the total. Speaking of the availability of raw material from which fissionable fuel can be made, McGee reported that the free world now has very adequate uranium ore reserves and these can be increased if needed.

ONE of the most important facets of the new science of nuclear power is the development of the breeding reactor. This type of reactor multiplies reserves of fissionable fuel many times. His technical explanation of this fact went as follows:

> . . . If only the U-235 in natural uranium (.7 per cent of the total uranium)

is burned in a reactor, then the nuclear fuel supply will last less than one-hundredth as long as if all the natural uranium is burned. It is technically possible to build a reactor which will produce not only power from the U-235, but will make plutonium out of the U-238 as well. The plutonium can be chemically extracted from the partially burned uranium and in turn can be used as a nuclear fuel for another reactor since it is one of the fissionable elements. In this way all the originally mined uranium can in theory be used to produce energy. . . . Thorium can also be transmuted into a usable fuel in a reactor, one of which is under construction now.

McGee stated that the most striking facts about the nuclear power program were the greater variety of reactor concepts and the high cost of development—it takes about $350 million to develop a reactor concept to the point where it can be expected to become competitive with fossil fuels.

In fiscal 1959 McGee reported that the government would spend about $650 million for nuclear power, $250 million of which would go for research and development. He stated:

> It is probable that continued research and development will result in nuclear power costs in Britain, below conventional costs, by the late 1960's. It is also expected that in the United States, where low-cost coal and natural gas are available, this parity with conventional costs will be achieved only by those plants which are started late in the coming decade. It is estimated that at least 15 million kilowatts of nuclear power capacity will be installed in the next ten years, and that in the decade following, say by 1975, most new high output power stations will be nuclear.

COMMENTING on nuclear fusion, McGee related that technical difficulties in solving the control of this type of atomic reaction are such that nuclear power from this source may be at least twenty years away. Mr. McGee related that "A power reactor today costs in the range of $300-350 per kilowatt for a 200,000-kilowatt plant or about twice the cost of coal fuel plants of the same size. The operating cost per kilowatt-hour, exclusive of fuel, would not differ much from that of a coal-fired plant. The fuel cost will vary widely depending upon what kind of fuel cycle is used but seems to be around two mills per kilowatt-hour for gas-cooled, graphite reactors and perhaps three mills for light water reactors." It is anticipated that continued work on fuel cycles will bring these fuel costs down to one mill per kilowatt-hour. The high cost of construction of a nuclear plant is expected "eventually to be more than offset by low fuel cost."

BECAUSE of the unique problems of nuclear energy—radiation, specialized design, corrosion of fuel elements, waste handling, and others—the capital costs of producing nuclear power are high—at least initially, until the specialized engineering problems are solved. The rate of growth for nuclear fuels will be determined to a large extent in the next decade by the Atomic Energy Commission since it is largely responsible for reactor research and development. Therefore, McGee emphasized, the aims and objects of this agency are important. Here is what they are, as set forth by John A. McCone, chairman of the AEC:

1. To reduce the cost of nuclear

power to competitive levels in high energy cost areas of this country within ten years.

2. To assist friendly nations now having high energy cost to achieve competitive levels in about five years.

3. To support a continuing long-range program to further reduce the cost of nuclear power.

4. To maintain the United States' position of leadership in the technology of nuclear power for civilian use.

5. To develop breeder-type reactors to make full use of the nuclear energy latent in both uranium and thorium.

McGee predicted that the U. S. research program, undertaken to carry out the AEC's objectives, will continue to produce new discoveries in the nuclear field. He said a way may be found to convert fission energy directly into electricity since various laboratory tests already have been made that indicate such a process might be feasible. A breakthrough of this kind could have a profound impact on the reactor program and the use of atomic energy.

In closing, Mr. McGee forecast that "the atom may reach maturity sooner than anyone now expects."

Daily Flow Records as a Test for Practical Projects

About a year ago I sent out to many leading people, including some Senators, Congressmen, heads of several government agencies, and members of engineering societies, my paper entitled "Research on Water Usages." About 90 per cent of that paper was quoted from reputable sources and from actual daily flow records of stream flows, precipitation records and evaporation records as they related to the development of so-called "flood-control projects," and large electric power dam projects.[1]

The purpose was to prove that the engineers had made mistakes by using monthly flow records in place of daily flow records, by failing to consider proper evaporation records and by lack of consideration of economy. Proof was shown that very large reservoirs increase evaporation and cause decrease in precipitation, resulting in less river flows below these reservoirs than before the dams were built. A multiplicity of dams in place of one very large dam at the same place would give the same benefits at a fraction of the cost and cause less water loss by evaporation. Now, after a year come these results:

1. At a recent luncheon meeting with one of the leading engineers in the Corps of U. S. Engineers, he told me that the Army Engineers no longer used monthly flow records of stream flows, but now use daily flow records. When asked why, he replied: "To use monthly flow records will show the stream flows to be far higher than they really are." That is exactly what the "Research" paper pointed out.

2. The *Engineering News-Record*, July 23, 1959, issue on page 28, under the heading of "Huge Water Spending," tells about the publication of reports from Departments of Commerce and Interior. One predicting much spending for large proj-

[1] Notes (from the article): Commerce reports total U. S. water resources investment in 1954 was $150.7 billion and by 1975 must be increased to $290.8 billion. That will call for $140.1 billion in new projects plus $74 billion to replace obsolete facilities. (Personal note: Have these obsoletes paid off in fifty years as the law requires?)

The figures following are quoted from the article as "figures broken down":

Water Supply	$89.6 billion
Sewage and Industrial Waste Facilities	73.7 billion
Power Generation	18.5 billion
Irrigation	9.3 billion
Total Needed Investment	$191.1 billion

ects and the other seemingly of an opposite view, and backing it up with these words which are quoted:

> Another report, however, issued by Interior's U. S. Geological Survey, indicates it may not be profitable to make such investments on river basins nearing their ultimate economic development. The report points up the possibility that maximum stream flow benefits from additional reservoir construction may soon be reached, if not already exceeded in certain basins, particularly in the West.
>
> The Geological Survey report points out that increasing evaporation from added reservoirs can offset improved stream flow advantages by reducing the total flow.
>
> In another report USGS says, "Although the number and capacities of U. S. reservoirs still are rising rapidly, the point of ultimate development for hydroelectric power, irrigation, flood control, and navigation may be seen on the horizon."

This, too, is exactly what I have been preaching.

—H. H. WHITE,
Atlanta, Georgia.

Notes on Recent Publications

THE EDISON ELECTRIC INSTITUTE has published a 66-page *"Farm Electric Sales Handbook"* which is designed for use by rural salesmen of electric power companies, electric equipment manufacturers, etc., and by agricultural extension services of colleges. Subjects covered by the handbook include sprinkler irrigation systems, underfloor electric heating cable, heating cable to prevent pipes from freezing, electric equipment for the farm shop, electric dairy equipment, electric brooking, egg cooling and storage. Each section outlines the principal advantages ef the electric equipment discussed and gives data on size of equipment needed for the various uses, capacities, operating costs, installation costs, initial investment costs, and average kilowatt-hour use.

Many useful tables are also included. One shows estimated kilowatt-hours by various items of farm electric equipment, ranging from corn shellers to water pumps, from cream separators to ventilating equipment. Also there are tables showing various wire sizes for indoor and outdoor use, resistance and weight of electrical conductors, and wire-carrying capacities.

The handbook is 4½ x 7½, is in loose-leaf form, contained in a sturdy, semiflexible binder with gold printing. Amendments and additions to the handbook will be issued by EEI from time to time. Obtainable from sales division of Edision Electric Institute, 750 Third avenue, New York 17, New York. Ask for *"Farm Electric Sales Handbook."* Price 3.50, plus postage.

"RAILROAD TRANSPORTATION AND PUBLIC POLICY" by James C. Nelson, professor at Washington State University, takes a long, hard look at the Interstate Commerce Commission and the railroad industry.

Professor Nelson, agreeing with previous investigators, recommends drastically lessened regulation, greater latitude to the railroads in dropping unprofitable services, and reduced favoritism and subsidization of nonrailroad forms of transportation. Published by Brookings Institution, Washington, D. C. Price $7.50, 512 pp.

The March of Events

Record Gas Income

An all-time high of $692 million was reported as net income by the gas utility and pipeline industry for 1958. This figure is a gain of 6.8 per cent from the $648 million recorded in 1957. The operating income from all sources went up to $7.1 billion, a 10.8 per cent increase over 1957. Utility operating income was $922 million, which was up 9.5 per cent. Net plant increased in value from $13.2 billion in 1957 to $14.2 billion in 1958.

Rate of return for the industry went up to 6.5 per cent from the 6.3 per cent of a year earlier. And gas industry revenues from sales to ultimate consumers increased 10.5 per cent above 1957 level, totaling $4.2 billion and establishing a new all-time high.

The industry served an average of 31.2 million customers in 1958 which represented a gain of .7 million over the number served in 1957.

Rate Hikes Sought

Operating companies of the Columbia Gas System, Inc., have filed applications with the Federal Power Commission for rate increases amounting to a total of $7,750,000. Two other subsidiaries are expected to file increases that will add an additional $940,000 to the amount.

The increases already filed were made by four Columbia companies that serve a total of 48 wholesale customers in such cities as Washington, D. C., Baltimore, Maryland, Richmond, Virginia, Dayton, Cincinnati, and Portsmouth, Ohio. The reason given for the rate applications was that United Fuel Gas Company, chief supplier of gas to system companies, had experienced or will experience increases of $13,950,000 in its gas purchased and procurement costs. The companies stated that these higher costs plus about $700,000 of their own increased operating costs, must be offset primarily through higher rates.

Cuba Gets Tough with Oil Companies

The Cuban government has seized United States and other foreign oil exploration companies' files and sealed them. Purported reason was the drafting of a new petroleum law. Also, Castro officials said they wanted authentic information on the exploration of Cuban oil.

Cuban agrarian agents also have seized 75,000 acres of U. S.-controlled land. Nearly 10,000 acres on which Bethlehem Steel Corporation held mineral rights were seized, as were 35,000 acres controlled by Compania Phillips, a subsidiary of Phillips Petroleum Company.

Another 30,000 acres whose mineral concessions were held by the Cuban Development Company, a U. S.-financed oil exploration concern, also were expropriated. It is thought that the Castro régime will impose a 25 per cent tax on all mineral exports, which will cause most foreign development companies to cease operations.

Abundant Gas from Shale Oil

SHALE deposits are vast enough to assure that the United States would not be short of natural gas or oil for many generations to come. Russell J. Cameron, international oil consultant, so testified to a congressional Joint Economic Committee which is seeking information on the nation's long-range energy picture. Cameron said shale oil reserves in the U. S. are estimated to be two trillion barrels and world reserves four trillion. The Colorado shale resources alone, he declared, would produce 6,000 trillion cubic feet of natural gas. (Petroleum natural gas reserves were estimated as of January 1, 1959, at 254 trillion cubic feet.)

Production of shale oil from high-yield, easy to get at ore, is perfectly feasible now and would be economically competitive with petroleum, the oil expert told the committee. It can be produced and sold profitably for a wellhead price of no more than $2.50 a barrel, he reported.

California

LA's Electric Rates Up

A CITY ordinance has been approved by the Los Angeles council which permits the city's electric plant to raise its rates on an average of 8.9 per cent. The rate boost was recommended by the city's administrative officer and the Board of Water and Power Commissioners. The new rates are expected to add between $9 million and $10 million additional income yearly to departmental revenues.

The average home owner will be affected to the tune of between 26 cents and 41 cents a month, it was estimated.

Competitive Nuclear Plant

THE Pacific Gas and Electric Company has applied to the state public utilities commission for permission to build an atomic power plant. Estimated to cost about $20 million, the proposed nuclear plant would be erected near the company's gas and oil fuel Humboldt Bay power plant at Buhne point, three miles south of Eureka.

Spokesman for Pacific Gas and Electric predicted that with the second loading of atomic fuel, the atomic plant would be expected to generate electricity at a cost competitive with power made from conventional sources. This would take place in about 1965 or 1966. The commission was also told that the company would finance the new plant without subsidies.

It would be a single-cycle, boiling-water type, similar in design to the Vallecitos atomic power plant near Pleasanton, California, and would have an expected capacity of 60,000 kilowatts at the outset. General Electric has a contract to manufacture the reactor, fuel, and related electrical equipment. Bechtel Corporation of San Francisco would be the prime contractor. Completion would be scheduled for 1962.

Colorado

Taxation Inequities

THE public utilities in Colorado are generally being assessed at higher value levels than real estate and other property. So reported two consultants for a Colorado state legislative council. In-

equities of taxation among the individual utility companies and unfair distribution of utility taxes to individual counties and other taxing units were listed.

The report said the utilities are being valued for taxation at 37.5 per cent by the Colorado State Tax Commission, compared with an average valuation of 27 per cent for property handled by local assessors.

Colorado railroads are being valued, for taxation, at nearly 15 per cent higher than they would recommend; electric companies, about 4 per cent higher; gas companies about 5 per cent higher.

It was noted, however, that Western Union Telegraph Company properties are being valued for taxation at nearly 40 per cent less than the report authors would recommend; telephone companies, 3.5 per cent less; and gas pipeline companies, 6.5 per cent less. The report recommended tax assessment for utilities based on reproduction cost less depreciation.

Georgia

Army Requests Two Dams

Two huge dams on the Savannah river in Georgia have been recommended for construction by the Corps of Army Engineers. One dam would be located at Carter's Island, 11 miles east of Elberton, and would ultimately cost some $53,171,000. The second would be built on Goat Island, 15 miles southeast of Elberton and would cost $26,511,000.

These recommendations on the part of the Army Engineers are the result of a study authorized by Congress in 1958. It was to determine the next logical steps in the comprehensive development of the Savannah river basin.

The 150-foot fall in the river between Hartwell and Clark Hill will be utilized to develop hydroelectric power. The electric power potential for Carter's Island is estimated to be 199,800 kilowatts and the Goat Island dam is expected to develop 62,500 kilowatts. An original (1944) study called for dams at Middleton Shoals and Goat Island, after completion of the Clark Hill and Hartwell dam projects.

Rate Increase OK'd

The application of the Atlanta Gas Light Company to raise its gas rates by $5,212,654 annually has been granted by the state public service commission. The commission allowed the boost so that the company could pass on to consumers a tentative increase put into effect by Atlanta's pipeline suppliers.

However, the commission deferred action on the company's bid to raise rates an additional $3,378,528 a year. The company contends it needs this additional money to earn a "fair return" on its investment. The commission said it would look into this second request in the near future.

Kentucky

Power Plant Vote Attacked

A vote favoring a municipally owned electric power plant has been attacked in Princeton, Kentucky, with a suit instigated by five Kentucky Utilities Company employees. The suit contends that the election should be declared invalid and of no effect.

The reasons given for asking to have the election results set aside were that (1) part of Kentucky Utilities' facilities, the substation, is outside the city limits, beyond city jurisdiction; (2) the facilities also

serve noncity customers and they account for a substantial portion of the company's volume; (3) notice of election was inaccurate and misleading in that it referred only to KU's properties in the city. Also, it was published only once, not twice, as required by law.

The utility workers who filed the suit did so as individuals and taxpayers, according to reports. In the balloting on the question of whether the city should be given permission to acquire Kentucky Utilities, the vote was 1,103 yeas and 868 nays.

New Jersey

Revised Tariffs Ordered

REVISED tariffs have been ordered for the New Jersey Power & Light Company and Jersey Central Power & Light Company by the New Jersey commission that will reduce demand charges for electricity, effective January 1st.

Demand charges are levied on utility customers using kilowatts of electricity in excess of an allowance established by the company.

Under existing rates, users are charged an extra $1.50 per kilowatt above 7.5 kilowatts a month. The reduced rates do not apply the extra charge until consumption reaches above 10 kilowatts.

It was estimated by the companies that the revised rates would reduce the number of customers subject to the demand charges from 1,852 to 711 a month, effecting a reduction of $39,500 a year. The companies stated that the extra charges were needed to maintain peak demand generating facilities.

New York

Denied Rate Rise

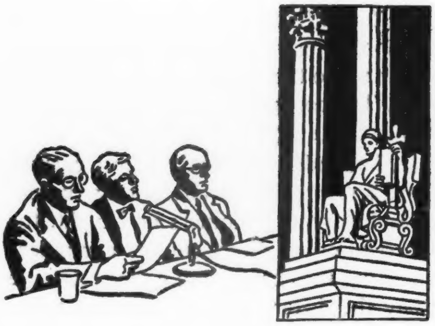
THE Consolidated Edison Company has been refused a big user 10 per cent increase in electric rates "at this time" by the New York Public Service Commission. The proposed boost would have brought the utility $8,058,000 a year more in revenues. The request for the hike in rates was made while the commission was considering a group of the company's applications that would result in a total annual revenue increase of $16.6 million initially and more later.

It was back in September that the state commission launched a full investigation of Consolidated Edison's rate structure. It appears the commission will decline to act until this investigation is completed.

Pending the outcome of this rate study by the commission, Consolidated Edison asked for an immediate increase for users consuming more than 30,000 kilowatt-hours a month. The company also has three other requests before the commission. They are: (1) A 1 per cent increase in They are: (1) A one per cent increase in pensate for the city's tax increase on utilities. This would bring in $3.7 million a year. (2) An adjustment of the billing period so that each bimonthly bill represents a charge for two 30-day periods. (3) Gradual end to the conjunctional billing system whereby larger users, such as certain housing projects and hospitals, pay lower rates. In the first year, Con Ed would thus gain $2.8 million and could climb eventually to $9 million.

Commissioner Francis P. Mylott recently announced that all five members of the state commission met in October and decided to hold the line on electric rates.

The last important increase came in June, when the basic monthly charge of $1 went up to $1.25 for the utility's 2.8 million customers in New York city and Westchester.



Progress of Regulation

Trends and Topics

Who Should Bear Conversion Expense When Type of Service Is Changed

GAS companies converting from manufactured gas to natural gas make necessary adjustments to customers' appliances. Electric companies make adjustments when there is a change from direct to alternating current. A few reported cases deal with the extent of company and customer responsibility. A somewhat different situation is presented when a utility abandons service and customers turn to another source of supply. The Oklahoma commission, in an early case, refused to grant the application of Grand River Gas Company to abandon its plant because of the failure of a supply of gas, except on condition that the company refund to consumers money expended in procuring piping, fixtures, etc., for using the gas (PUR1917C 1032). A similar question arose recently when the Wisconsin commission permitted abandonment of gas service in the city of Ashland (30 PUR3d 129).

Company Required to Pay Conversion Costs

The Wisconsin commission approved abandonment of gas service because of a great decrease in the number of customers supplied with gas and a resulting operation at a loss. The commission said that the company should remove utility equipment from the premises and that the service pipes into customers' premises should be capped at the building wall or removed. The commission went further and ruled that if abandonment was permitted, the customers should be given their choice of bottled gas, electric service, or other fuel.

Provision was made in the order that for those customers who chose to change to bottled gas the utility shall pay the cost of conversion of utilization equipment to bottled gas operation and pay or install the bottled gas piping on the customers' premises. For those customers who chose to change to electric utilization equipment, the utility is required to pay for the enlargement of, and new wiring and installation of, electric equipment, and it is also required to pay the customer the remaining value of existing utilization equipment.

The commission said that if oil or other fuel is substituted, the present

utilization equipment will be of no value. It said that in other cases involving changes in types of service it had passed upon similar adjustments of the customer conversion expense. Reference was made to the decision in the Janesville Electric Company case (PUR1916C 400). The commission said that its order followed the plan of adjustment of expense there set forth.

The commission, in the Janesville case, had ruled that when direct current motor equipment was made useless by the substitution of alternating current service, which reduced operating expenses but gave customers no benefit, the consumer should lose the amount of depreciation on direct current equipment and the utility should stand the cost of making the change and either purchase the equipment at its present value or pay the difference between such value and the secondhand value.

Illinois Rulings on Conversion Cost

The Illinois commission, in an early case, held that a utility, upon changing from direct to alternating current, should pay the consumers the full present value of their electrical equipment made useless by this change (PUR1917F 797). In another case the same commission, upon authorizing a change from direct to alternating current, ordered the Central Illinois Public Service Company to exchange all lamps, flatirons, and fans owned by the consumers and rendered useless by the change, free of charge, and to offer to consumers having other equipment not applicable for alternating current service an exchange proposition determined in accordance with a prescribed rule (PUR1919E 570).

But in a later case the commission ruled that when Commonwealth Edison Company lawfully refused to furnish direct current service to premises which had been acquired by a new owner, it was not obliged to compensate the new occupant for any loss of value of equipment designed for direct current use which the latter acquired with the premises from the former occupant (PUR1932C 459).

Limitations on Customer Claims

The Missouri commission decided that the expense of converting equipment owned by direct current customers, when Union Electric Company changed to alternating current, should not be borne entirely by the utility. The equipment was approaching the end of its useful service life and conversion could be equitably completed as long as the consumer recovered in replaced equipment the full value of remaining service life of the old equipment. The commission did not think it necessary to prescribe a formula for the allocation of the cost of conversion between the utility and the customer. So long as the customer had recovered in replaced equipment the full value of the remaining service life of old equipment, no unfairness resulted (90 PUR NS 194).

The Arkansas commission decided that any expense in converting equipment owned by a group of direct current customers of Citizens Electric Company should be borne by those customers rather than the utility, when, by reason of discontinuance of street railway service, it became impractical to continue direct current service. The company, though not attaching additional direct

current customers for many years, had made an attempt to eliminate such service by the normal turnover in customers. The equipment of the customers, while having been well maintained, was approaching and close to the end of its useful service life (26 PUR NS 439).

Judicial and Commission Views in New York

A consumer, according to a decision by a New York court, was not entitled to recover damages for the cost of converting machinery and appliances from direct to alternating current where the commission had decided that only alternating current need be supplied an area after a certain date and the utility had terminated direct current service after such date (84 PUR NS 527).

The New York commission dismissed a complaint against Brooklyn Edison Company when it was changing from direct to alternating current. The utility had offered to contribute a reasonable sum towards the purchase of a new radio, or to substitute a different model radio set operating on alternating current, or finally to award a reasonable cash sum as damages in changing over the receiving set. The customer complained that a radio substituted by the company did not give the satisfaction formerly enjoyed (PUR1932A 225).

The commission, in another case involving the changeover by Brooklyn Edison, stated the rule that an electric company which assumes the responsibility of replacing or rewiring consumers' electric equipment upon a changeover from direct to alternating current cannot refuse to make such change on the ground that a customer does not own and use certain appliances unless satisfactory evidence is produced on the question of ownership and use, notwithstanding the fact that the customer has not permitted inspection of his appliances at all times and has not responded to the company's methods and practices in reporting his equipment (PUR1932A 337).

Review of Current Cases

Remand to Commission on Question of Partial Allowance for Future Construction

JUDICIAL speculation is not a good substitute for appropriate findings and conclusions, the appellate division of the New Jersey superior court said in remanding a water rate case with directions to specify the basis for limiting an allowance for planned construction. The commission, granting additional revenues to produce a 6 per cent return on a fair value rate base, had included investments not to be made until 1958 and 1959 in the rate base applicable to the test year 1957. The company had requested that 1960 and 1961 construction also be included.

Capital Costs Factor

Citing Nichols on *"Rate of Return,"* the court agreed that the rate of return must be fixed with regard to the necessity to expand, extend, improve, and modernize facilities so as to render adequate and economical service, and, therefore, the need to attract capital. Revenue should be sufficient to defray capital costs, including

interest on debt and dividends on stock. The return to the equity owner should be commensurate with the return realizable on investments in other enterprises having corresponding risk.

Future Construction

The court pointed to the New Jersey Bell Telephone case (29 PUR3d 87), where it was held not to be necessarily erroneous to include in the rate base for a test year the average increase in investment for the following year without taking into account projections of earnings and expenses for the following year. It is sufficient if there is a rational and reasonable relationship between the expanded rate base and the objective of a fair return.

The Bell case principle, said the court, had validity and relevance entirely apart from considerations of inflation or attrition. While the commission findings supported inclusion of the value of prospective construction, the commission had not undertaken to explain the disallowance of the amounts programed for completion in 1960 and 1961.

Depreciated Reproduction Cost

The company had asserted that the commission erred in refusing to give weight to depreciated reproduction cost. The court answered that the commission must fix the rate base at the fair value of property used and useful at the time of its employment. The commission reaches this determination by reviewing the plant as an integral and unitary whole.

The commission is not bound to any particular formula or combination of formulae. The determination must, however, be bottomed upon substantial, competent, and relevant evidence. Reproduction cost is one guide but not a measure. The commission may, but is not bound to, adhere to a net investment formula. Its determination of fair value and its decision on the nonapplicability of depreciated reproduction cost, if properly founded in the evidence, was beyond judicial interference.

Valuation of Real Estate

The company had also argued that real estate had not been valued at fair market value. The company's evidence had been based upon the best and highest use possible for the land at its situs. No allowance had been made in the appraisals for the cost of restoring the land to a condition where it could be so used.

The commission had rejected this testimony in favor of a valuation based upon the actual use of the land. The court could not say, in view of the factors involved, that the commission erred in rejecting this testimony and in adopting a net investment approach.

Profit from Sale

The company asserted that the commission had erred in deducting a profit from the 1931 sale of a portion of its distribution system from earned surplus and crediting that amount to the depreciation reserve account. The commission had made the same adjustment in the company's 1954 and 1957 rate cases, pointed out the court, and the company was apparently satisfied with the correctness of this procedure. The adjustment was made to conform the company accounts to the commission's Uniform System of Accounts for water utilities.

The rules applicable to the construction of statutes are, in general, applicable to the construction of rules or regulations promulgated by an administrative agency, the court said. It is the intention with which the rule or regulation was adopted that is controlling. A long period of con-

sistent construction by an administrative agency is entitled to great weight. Courts are not wont to overturn the construction given to its own rules and regulations by an administrative body. The court could find no error in the adjustment.

Rate Case Expense

The same reasoning was applicable to the commission's refusal to include as an operating expense the amortized expenses of prior rate cases. The commission had held that only the cost of the current rate case could be considered. Since the commission had consistently followed this rule, the court was not able to say that it was unreasonable.

Normalization of Income Taxes

The company had adopted the declining-balance method of calculating depreciation in accordance with § 167 of the Internal Revenue Code of 1954. This permitted the company to depreciate two-thirds of the cost of the asset during the first half of its useful life.

The use of the declining-balance method, pointed out the court, permits the utility to charge, for income tax purposes, a larger sum against operating income during the early years of the useful life period of the property than during the remaining period. The company had requested that the difference between taxes actually paid in the test year and those which would have been paid if the straight-line method of calculating depreciation had been adopted be allowed as an operating expense to offset the heavier tax burden during the latter portion of the useful life of these assets. The refusal of the commission to do so, held the court, accorded with the practice adopted in other cases where depreciation was calculated by the declining-balance method. The court could not say that the action was unreasonable for rate case purposes. *Re Plainfield-Union Water Co. 154 A2d 201.*

Disallowed Expense Properly Considered in Rate Case Tax Allowance

THE New Jersey appellate division of the superior court has held that the commission was not in error when it computed federal income taxes paid by a parent water company as if the full annual payment due an out-of-state subsidiary for the use of a reservoir had been included in operating expenses, notwithstanding that a portion of such payment had been disallowed. However, the case was remanded to the commission for further findings and reasons for the commission's conclusion that only a portion of the parent's payment to the subsidiary should be allowed. The decision and order were not sufficiently clear to enable the court to determine the commission's reasoning with respect to the disallowance.

The contract between the parent and the subsidiary provided that the parent would pay a minimum of 55.6 per cent and a maximum of 95 per cent of the total operating costs of the reservoir for any year. The specific charge depended upon the ratio of the amount of water diverted by the subsidiary to the available yield, subject to the percentage of 55.6 per cent. In 1957, when the subsidiary had used no water from the reservoir, the parent had paid 95 per cent of the cost. The commission, however, had allowed only 55.6 per cent, stating that under normal and usual operations the allocation to the parent would be in that amount.

Intangible Benefits Weighed

The development of any formula, like the one in this case which made the percentage of cost dependent upon the percentage of water actually drawn from the reservoir by the respective utilities, must include the weighing of intangible benefits, said the court. The conclusion must be based upon expert knowledge and opinion, particularly where it requires the ascertainment of the respective benefits enjoyed by New Jersey and New York consumers.

It might well be, continued the court, that great respect should be paid to the expertise of the commission. However, the difficulty with which the court was confronted was the absence of a reasoned conclusion.

Added Income Tax

Since the commission had denied certain operating expenses for rate-making purposes, it was contended that the company would be charged with added income tax expense, and that the commission should have considered such a possibility in computing the return. An adjustment had been denied because the two utilities filed a consolidated income tax return, and the commission felt that the intercompany transaction would "wash out," since the income of one would be offset by the expense of the other.

The court held that, while the commission's conclusion with respect to computation of the taxes was correct, its reasoning was fallacious. Both companies are regulated utilities having separate customers in separate states. Each is subject to regulation by the appropriate board of the state within which it is functioning. Therefore, the two companies should be treated as separate entities for rate-making purposes. It was true that the consolidated income tax liability of the two companies would not be changed by a reduced intercompany payment on account of the reservoir. But it was not true that the income tax liability of the parent as a separate and distinct entity—which should be the only liability relevant in a case involving the parent's rates—would not be changed.

However, the commission's disallowance for rate-making purposes of the credits taken by the parent for the expense of the reservoir did not abrogate the terms of the intercompany contract. The parent continued to be liable for the payments called for under the agreement. It was, therefore, entitled to claim full credit for the expense for federal income tax purposes. In reality, there would be no change in the allocation of the reservoir expenses (except for rate-making purposes), and thus there would be no change in the federal income taxes paid as a result of the commission's adjustment for rate-making purposes. The commission's allowance of income taxes was, therefore, correct. Its calculation was based upon the actual allocation of expenses between the two companies for the year 1957.

Inclusion of Future Construction

Rate counsel objected to the inclusion in the rate base of any 1958 capital expenses, since the test period had been based upon the year 1957. The court cited the Bell Telephone case (29 PUR3d 87), wherein it was held that the commission's determination to calculate fair value by reaching outside of the test years and including 1958 average increases in net investment was not erroneous as a matter of law. The court stated that its reading of the Bell case led it to conclude that the list of problems sought to be remedied by the commission was not exclusively limited to those of attrition and inflation, but could include any situation to which recognition should be given.

In the light of the commission's expert finding that a major portion of the 1958 improvements were nonincome-producing, it was reasonable that a portion of such capital expenses, not to exceed the amount to be expended for nonincome-producing improvements, should be included in the rate base.

The same reasoning was applicable, said the court, to the commission's inclusion of 1958 wage increases as an item of operating revenue deduction.

Normalization of Income Taxes

The commission had permitted normalization of income taxes for accelerated amortization deductions taken by the company pursuant to § 168 of the Internal Revenue Code of 1954. The court refused to disturb the commission's action, stating that such a situation is clearly one in which deference must be accorded to the judgment of those trained in the field of public utility regulation. *Re Hackensack Water Co. 154 A2d 212.*

Deviation from NARUC Separations Formula Attacked

THE Oregon circuit court reversed an order of the Oregon commissioner granting The Pacific Telephone and Telegraph Company rate increases which were less than those requested by the company. The court held that the separations adjustments made by the commissioner were not supported by competent probative evidence and were, therefore, arbitary and illegal, resulting in a confiscatory rate of return. The company's appeal was restricted to the sole issue of apportioning property and expenses between interstate and intrastate services.

The record disclosed that there was a serious disparity between intrastate and interstate toll rates for comparable distances. Commissioner Hill blamed this disparity upon the allocation process and attempted to decrease the disparities in his separations adjustments. The effect of this was to increase interstate toll rates. The court held that while this was a laudable purpose, it exceeded the commissioner's authority since he has no jurisdiction over interstate rates.

The company relied upon the NARUC Separations Manual in separating property, revenues, and expenses between intrastate and interstate operations. The purpose of this manual was to achieve a nation-wide uniform system of separations so that both the public and the company might be treated with fairness and consistency. The court said that if there were no uniform system, property would either be allocated to both services or to neither. If allocated to both, the public would, because of the duplication, be penalized by paying higher rates for both intrastate and interstate services, and if allocated to neither service, property of the utility would not be recognized by either state or federal authorities. It said that the latter was a clear example of confiscation.

Limitations on Separations Adjustments

The court said that it is not necessary for the commissioner to be strictly limited to the procedures set forth in the Separations Manual but that if he does depart from them, he must do so upon the basis of the record submitted to him and that record must contain competent probative evidence supporting his decision.

The commissioner made an adjustment as to exchange plant by weighting by three each minute of interstate use. This constituted a departure from the Separations Manual. The commissioner's adjustments were made primarily on the basis of the testimony of Curtis M. Bushnell, an ac-

knowledged expert in this field. Examination of Witness Bushnell's tesimony disclosed, however, that the weighting factor of three was his own studied judgment. He urged its use on the ground that it would tend to eliminate the disparity between intrastate and interstate rates. His testimony revealed that a weight factor as high as six might be justified.

The court concluded that the weighted factor of three should be rejected because it resulted in a separation that was based not on actual use but upon weighted use. Furthermore, it believed that the figure of three was an arbitrary one and was not supported by proper probative evidence. It was merely a device used to accomplish the desired end result.

Message-mile-minute Plan

The commissioner's adjustments pertaining to toll lines substituted the message-mile-minute plan for the modified Phoenix plan of the NARUC Manual. The effect of this plan was to use the average investment of the American Telephone and Telegraph Company and associated companies in toll line plant throughout the country rather than the actual investment of the Pacific Company in toll line plants in Oregon. This resulted in a dilution of the company's actual Oregon investment. Use of the message-mile-minute plan thus ignored the actual investment of the Pacific Company in Oregon, resulting in confiscation of the company's property. The court noted that Mr. Bushnell's theories and opinions have been consistently rejected by various state regulatory agencies before which he has recently appeared (25 PUR3d 18; 16 PUR3d 207). In conclusion the court stated that the company might prepare a proper order for its signature. *Pacific Teleph. & Teleg. Co. v. Hill, No. 47022, October 9, 1959.*

Acquisition Adjustments Amortized in Gas Rate Case

The Colorado commission denied Plateau Natural Gas Company's application for a rate increase when it found, after making certain adjustments, that the company was receiving a return of 7.1 per cent under existing rates. The company was allowed to change the monthly minimum rate from $1.50 to $2 for one of its service divisions. That rate, however, was so designed that unless the customer was a minimum user he would not receive an increase in the cost of gas.

The company had acquired, by purchase, assets of certain gas companies in the state and these purchases had been approved by the commission. A question was raised as to the treatment of the company's acquisition adjustments for rate-making purposes. An acquisition adjustment was defined as the difference between the net original cost as shown on the company's books and the purchase price paid for the property. The company treated this acquisition adjustment as part of its operating expenses and amortized it over a 15-year period. The commission adopted a 30-year amortization period and permitted the acquisition adjustment to be amortized as an expense.

Governing Factors

The commission said that no hard and fast rule should be imposed with respect to the treatment of such adjustments for rate-making purposes. Rather, it said, each case should stand on the record. The commission mentioned that it is highly possible that any excess cost paid for the acquisition of a utility over and above the net original cost represents strategic or

pre-emptive value, based upon the anticipation of increased earning power or, in other words, a speculation. Or, it said, for reasons best known to management, the acquisition of a plant may be desirable, in view of the acquiring utility's properties. In such instances it would be reluctant to allow an acquisition adjustment for rate-making purposes.

On the other hand, the commission said, an excess price over net original cost may be paid by an acquiring utility which will have the effect of higher quality, more enduring service, at lower cost to the consumer.

At any rate, the property transfers must be approved by the commission. The commission may scrutinize the possibilities of public benefit, where an excess over original cost is paid by the acquiring company.

The commission said that where it has determined that benefit does accrue to the public by virtue of the acquisition it may properly consider an acquisition adjustment in relation to public benefit. In other words, it considered it to be its duty to balance the equities between the public benefit and the amortization of the excess purchase price. In the present case, there was no evidence of disadvantage to the public by virtue of the acquisition. Therefore, it allowed the adjustment on an amortized basis.

Amortization Period

In adopting the 30-year period rather than the 15-year period as proposed by the company, the commission pointed out that it had already adopted a composite rate of depreciation of 3.6 per cent. This, it said, would amount to approximately a 28-year life based on a straight-line depreciation. The company had already amortized two years of acquisition adjustment. This would leave, on the basis of a 30-year write-off, twenty-eight more years. The commission concluded that the 30-year period tied the amortization of the acquisition adjustment in with the life of the property rather than some arbitrary period selected at random. *Re Plateau Nat. Gas Co. Application No. 16289, Decision No. 53073, September 24, 1959.*

Property Transfer Price Based on Current Cost Considered Excessive

THE New York commission withheld approval of a proposed transfer of a small amount of property from one telephone company to another. The proposal was in accordance with the general principle, enunciated by the commission in an earlier case (64 PUR NS 65), that each telephone company should own all telephone plant used in its territory.

The agreed sale price was based on estimated current cost less estimated depreciation and was nearly 60 per cent in excess of depreciated book cost. The question was, therefore, presented whether the commission should approve the transfer of property which would continue to be devoted to telephone service "when the proposed price—a composite of estimates upon estimates—is grossly in excess of the property's original cost and the transferor's book value."

The commission decided that the public interest did not warrant the transfer at the proposed price. It delayed issuing an order, however, in order to permit the parties to modify the proposed contract. *Re New York Teleph. Co. Case No. 19794, October 21, 1959.*

Fees Allowed in Holding Company Reorganization Proceeding

THE Securities and Exchange Commission allowed in part and denied in part various applications for further allowances of fees and expenses in a proceeding involving reorganization of The United Corporation. The reorganization plan, which has been consummated, transformed United from a holding company into an investment company.

The commission had previously allowed fees and expenses in the proceedings up to September, 1954. The district court had approved and enforced the allowances granted. Appeals had been taken to the court of appeals, and that court had approved some allowances and increased others.

Statutory Standards

The commission pointed out that fees and expenses may be allowed for services which have contributed to a holding company reorganization plan ultimately approved or to the defeat of a proposed plan found to be unsatisfactory or which have otherwise directly and materially contributed to the development of the proceedings with respect to the plan. The principal object of such allowances is to insure adequate representation of the interests of the classes of security holders affected. Accordingly, support of a reasonable position, even though unsuccessful, may be viewed as contributing to the development of the proceedings. Lack of success is, however, a relevant factor in determining the amount of compensation to be awarded.

Compensable Services

Certain applications were denied without prejudice to their renewal where the applicants failed to show what services covered by the applications included activities in support of their own applications in the prior fee proceedings. The commission said that a fee claimant is not entitled to compensation for preparing and presenting his own request for an allowance to the commission and district court. But this principle was held not to apply to services and expenses in connection with the successful defense, on appeal by others, of an award made to an applicant by the fee tribunals. To the extent that an applicant's request relates to services of that nature, it is entitled to favorable consideration.

Randolph Phillips, a common stockholder, and his attorney were allowed fees and expenses in connection with the successful appeal which they had taken to the court of appeals to increase the compensation awarded them by the commission and the district court in the earlier fee proceedings. The commission said that if the total amount finally held allowable had been awarded him in the first instance, he would not have had to resort to the appeal and the subsequent procedures to secure that amount. To require him to bear the full cost incurred in such litigation would reduce his net compensation below that which he would have received if the commission had initially awarded him the amount to which he was ultimately held entitled.

Fees for Stockholder Representatives

Attorneys for a committee representing holders of the company's stock option warrants, which were canceled as part of the reorganization plan, were awarded only part of their requested fees and expenses. During the course of litigation this committee unsuccessfully presented its contentions on the plan canceling the option warrants to a district court and two courts of

appeal. Twice it unsuccessfully petitioned the Supreme Court for certiorari as to the merits of the plan.

The commission believed that the committee counsel was entitled to compensation for services in the initial hearings before the commission despite their lack of success.

However, for their services on appeal subsequent to the commission order approving the plan, and in petitioning the Supreme Court for certiorari with respect to the merits, the commission believed that they were entitled to compensation on a more reduced basis. No fees were allowed for later litigation in which a jurisdictional question was raised.

Subsequent to the close of the commission hearings and prior to the order approving the plan the Supreme Court, in another case (87 PUR NS 349), established the propriety of canceling option warrants which were found to have no fair investment value even though they had a market value reflecting their speculative features. The commission believed that it was clear that under such circumstances there was very little likelihood that the committee could succeed in its contention that the commission's findings as to the warrants were not supported by substantial evidence.

The commission believed that the policy which justifies charging the reorganization estate with the costs of litigation relating to the merits of the plan was substantially satisfied after the committee had unsuccessfully presented its contentions to the court of appeals and petitioned the Supreme Court for certiorari on the merits. The committee had been successful in raising a jurisdictional issue before the Supreme Court, but this merely enabled it to embark on a "second round" of unsuccessful litigation on the plan. The commission concluded that it would be unfair to the corporation to require it to bear the committee's cost in the latter litigation.

Chairman Gadsby and Commissioner Sargent dissented from that part of the commission's decision relating to the compensation of representatives of the warrant holders. They would have allowed committee representatives compensation for activities in the "second round" of litigation. *Re United Corp. File No. 54-184, Release No. 14047, September 30, 1959.*

Removal of Certificate Restrictions Tantamount To New Certificate

THE Arkansas supreme court reversed a lower court judgment affirming a commission order removing restrictions in a motor carrier certificate. The court held that elimination of the restrictions was tantamount to issuing a new certificate, necessitating proof of public convenience and necessity. Since the applicant involved, an assignee of the original certificate holder, had failed to introduce sufficient proof of public need, the commission's order was said to be arbitrary.

The court's conclusion was in accordance with, and followed, the findings and conclusions of one of the dissenting commissioners.

The protesting motor carriers authorized to serve the territory in question had shown that they were ready, willing, and able to render the proposed service which would result from elimination of the restrictions.

The utility applicant had contended that public convenience and necessity do not necessarily mean a need for additional service to the public, and urged that the

granting of the authority sought would result in a more efficient and economical operation by it and its parent, a railroad, because it would release, to the public, boxcars presently required.

The court did not agree. Any presumed advantage that the public might possibly receive from the release of the boxcars of the applicant's parent company, it pointed out, and the profit and convenience flowing to the railroad and to the applicant on the one hand, is not sufficient to offset the uniform advantage flowing to the public in holding down wasteful and detrimental competition among natural monopolies. *Arkansas Motor Freight Line, Inc. et al. v. Missouri Pacific Freight Transport Co. 326 SW2d 820.*

Gas Purchase Contract Must Recognize Commission's Right of Review

THE Massachusetts Department of Public Utilities denied approval of a contract proposed by New Bedford Gas & Edison Light Company whereby it would sell manufactured unscrubbed oil gas to a nonutility affiliate which would extract chemicals and sell the residual gas back to the New Bedford Company. The contract would run for a period of twenty years at a specified price.

The commission objected to the failure of the contract to recognize by express provision the right of the commission to review the price in future rate proceedings. A state statute clearly gives the commission authority to supervise all dealings with affiliated companies bearing upon the price of gas. In the form submitted, the contract left ambiguous the question of the commission's jurisdiction over the contract.

If approval were given, it was pointed out, the companies might later contend that the commission, because of such approval, has no jurisdiction to review the contractual terms. It was noted that terms which seem to be fair at the present time may, as a result of technological or economic changes, become unfair before the elapse of twenty years. *Re New Bedford Gas & Edison Light Co. DPU 12733, October 6, 1959.*

Award of Gas Certificate to Rival Applicant Justified

THE Pennsylvania superior court affirmed a commission order awarding a gas certificate to one of two rival applicants.

The controlling consideration, in choosing one from among a number of applicants, pointed out the court, requires a selection of that applicant best fitted to carry out the duties imposed by the certificate. Consideration should be given such matters as experience, fitness, managerial organization, financial resources, and kindred matters.

The record revealed that the company awarded the certificate had presented to the commission a complete and sound plan to render service to all of the municipalities applied for. On the other hand, the contesting company's exhibits were incomplete as to a number of municipalities. For the commission to have reduced the territory awarded by the township claimed by the protesting company would have been a pro tanto reduction in the economic feasibility of the entire project, the court pointed out.

A comparison of the financial statements of the rival applicants revealed that the company awarded the certificate had a better balanced financial structure, with 43 per cent equity to 57 per cent debt, and had a much better position with respect to the excess of current assets against current liabilities.

The company awarded the certificate also had available superior equipment for repair and emergency service, such as a giant tapping machine, an automatic electric power-generating unit, a complete radio network, and a telemetering hookup. *Pittston Gas Co. v. Pennsylvania Pub. Utility Commission et al. 154 A2d 510.*

Date of Certificates Not Controlling As to Conflicting Rights

THE commission must look at conditions in being at the time of application for a certificate, the Arizona supreme court pointed out in upholding a certificate order. A lower court judgment reversing the commission order was in turn reversed.

Two limited motor carriers had requested statewide authority and both applications were granted. It appeared, however, that the commission's secretary had dated the certificate of the second applicant, Gibbons, one day earlier than that of the first applicant, Maddux. Gibbons thereupon urged before the lower court that the commission had no right to grant the application filed by Maddux without first giving Gibbons an opportunity to provide the entire service required by the public.

Statutory Provisions

The pertinent statute provides that upon application for carrier authority, the commission should give any carrier then serving the territory in question an opportunity to provide the proposed service.

At the time Maddux submitted his application for statewide authority, Gibbons was not operating under a conflicting certificate. He had not yet applied for statewide authority. Nor was he operating statewide even at the time the certificates were authorized. Consequently, the commission was not required to allow Gibbons an opportunity to furnish the service proposed by Maddux, the first applicant, even though Gibbon's certificate was dated first.

The point of view of the commission in a certificate proceeding must necessarily be retrospective, the court said. Its decisions must rest upon the facts existing at a time prior to the hearing and order. Therefore, said the court, Gibbons, the second applicant, could not properly ask the lower court to determine a factual situation on evidence *(i.e.,* the clerical dating of the certificates) that was not before the commission when the hearing was held. *Arizona Corp. Commission et al. v. Gibbons, 344 P2d 167.*

Necessity and Feasibility of Improvements Program and Bond Issue Not Proved

THE Indiana commission denied a municipal water plant's request to issue revenue bonds and to contract for capital improvements where the petitioner had not sustained the burden of proving the necessity for the improvements and the feasibility of the finance program.

The commission pointed out that, al-

though it is not its function to exercise managerial control over the operation of a utility, it has the responsibility of determining that a program submitted is both necessary and feasible. An item which is necessary to one person or one society may be totally useless and unnecessary to another person or in another society, the commission said. A Cadillac automobile may be necessary to one person, whereas no automobile whatsoever is necessary to another.

Therefore, the commission has to take into consideration all possible factors bearing on the question. One such factor is the opinion of the people directly concerned, the water users of the town.

Customer Opinion

The commission went on to point out that adoption of an improvement program and consequent bond issues and rate increases are not popularity contests. The outcome is not to be determined by who can produce the most witnesses. Nevertheless, the opinion of those directly affected concerning the nature and urgency of proposed improvements comprises one factor to which the commission cannot be oblivious when determining whether a given improvement is necessary.

Somewhat analogous is the question of whether the economic condition of certain consumers, their ability to pay the proposed charges, is a proper matter for commission consideration. The commission held that, although such factor cannot be weighed in determining the legality of a rate per se, the application involved more than just rates. The company had proposed that a $4 per month minimum rate be assessed, but the evidence showed that a substantial portion of the consumers could not pay such a high rate. In such a situation, the commission held, the question of feasibility of the particular program to finance the improvements becomes inescapable. It is not merely a question of economic hardship on a consumer. It becomes a matter of the feasibility of the proposed program to successfully raise the necessary revenues required to finance the program. *Re Town of Ridgeville, No. 28140, July 10, 1959.*

Order Requiring Restoration of Local Passenger Trains Set Aside

THE supreme court of North Dakota affirmed a lower court judgment reversing a commission order requiring a railroad to restore daily, except Sunday, local main-line service of two passenger trains which had been discontinued. The court said that when a railroad applies for authority to discontinue operation of passenger trains the question for commission determination is whether public convenience and necessity require their continued operation. Evidence in this case established that public convenience and necessity did not require operation of the trains and that the expense of their operation greatly exceeded revenue derived therefrom. Under these circumstances it was deemed unjust and unreasonable to require the railroad to continue service.

Statutory Limitations

The commission has statutory power to make rules and regulations governing services to be performed or methods to be observed by public utilities. However, under such rules and regulations it may not, under the guise of regulation, take the property of a carrier by compelling it to provide services or facilities no longer necessary to public convenience and neces-

sity. The commission referred to a statute which provides that every railroad operating within the state shall move over its line of road, each way on every business day of the year, at least one local passenger train to consist of not less than one engine and tender and combination mail, express, and baggage car, and two passenger coaches. The court said that while that statute is mandatory in form, it certainly could not have been the intention of the legislature to require railroads to maintain operation of local passenger trains where, as in the instant case, passenger travel by rail had practically been abandoned.

The court observed that if the statute were to be construed so as to require a railroad to provide daily local passenger service even though no need therefor existed, and notwithstanding great financial loss to the railroad, such construction would render the statute violative of the constitutional provision that no person shall be deprived of property without due process of law. The court concluded that under that statute a railroad is required to maintain daily local passenger service only where a need exists therefor or when required to satisfy public convenience and necessity.

Judge Morris concurred in the result upon the ground that under the record in this case the commission's refusal to authorize discontinuance of the passenger trains resulted in an unconstitutional application of the germane statutes and was confiscatory and violative of the due process clauses of the federal and state Constitutions. *Chicago, M., St. P. & P. R. Co. v. North Dakota Pub. Service Commission et al. 98 NW2d 101.*

Other Recent Rulings

Compressed-in-transit rate. The U. S. district court held that railroads had properly applied a percentage increase to the compressed-in-transit rate for shipment of cotton by carload in bales, notwithstanding a shipper's contention that the proper method would be to subtract the compression allowance from the gross compressed-in-transit rate, first to determine the net rate, and then to apply the percentage increases, since the compressed-in-transit rate should properly be regarded as an indivisible rate for transportation, involving ancillary convenience or service to the shipper, and the compression allowance is not a fixed and separable element of the rate. *Benson et al. v. United States et al. 175 F Supp 264.*

Objection to Examiner. The U. S. district court held that objection to an Interstate Commerce Commission examiner alleged to be unqualified should be raised as soon as possible after the facts become known or, with diligence, should be known, and failure to raise the question in timely fashion constitutes a waiver. *Magnet Cove Barium Corp. v. United States, 175 F Supp 473.*

Passenger Train Discontinuance. The Massachusetts supreme court held that the commission is not obligated in any particular manner, or by any single formula, to find the precise amount of avoidable cost or loss involved in continuing an existing railroad service, station, or stop, where no constitutional issue is raised, but can properly give attention to general transportation conditions. *City of Newton v. Massachusetts Dept. of Pub. Utilities, 160 NE2d 108.*

Motor Carrier Competition. The Washington supreme court held that a protesting motor common carrier, in a proceeding involving transfer of part of a common carrier permit to another carrier, had to show, in order to block the transfer, that competition would adversely affect the public interest, not that competition might be injurious to the protesting carrier. *Washington ex rel. Adams Transport, Inc. et al. v. Washington Pub. Service Commission et al. 340 P2d 784.*

Passenger Trains Discontinued. The Idaho supreme court ruled that the state commission did not abuse its discretion in permitting the discontinuance of two passenger trains upon evidence that public use of them was limited, that revenues from the trains were insufficient to cover crew wages, and that other adequate transportation facilities were available. *Re Union P. R. Co. 340 P2d 1103.*

Minimum Rate Applicable. The California superior court held that the minimum rate is deemed to have been part of a contract for the transportation of materials where the contract rate specified has not been authorized by the commission and has, therefore, been rendered illegal and void. *Alkire v. Owl Materials Co. 341 P2d 854.*

Demurrer to Review. The Tennessee supreme court ruled that a petition to a chancery court for certiorari to review a commission order granting a motor carrier certificate was not demurrable on the ground that none of the protestants had ever rendered service, since the question of furnishing service is simply one of the elements to be considered along with all other pertinent facts in granting a certificate. *Refiners Transport Co., Inc. et al. v. Pentecost et al. 325 SW2d 267.*

Permit Ordinance. The Florida district court of appeals held that a municipal ordinance requiring common carriers to obtain permits from the city in order to use loading zones did not violate a statute providing that a mileage tax would be in lieu of all other taxes and fees. *Tamiami Trail Tours, Inc. et al. v. City of Orlando, 113 So2d 723.*

Appeal Question Not Raised Below. The North Carolina supreme court held that protestants could not raise on appeal, for the first time, an objection that evidence was insufficient as to rates for a number of minor railroads, where the case had been tried throughout on the theory that the rate conditions of four major railroads were typical of the minor railroads and that the making of a case for the four would be a sufficient case for all. *North Carolina ex rel. Utilities Commission v. North Carolina Dept. of Agriculture, 109 SE2d 368.*

No Review of Commission Rule. The Pennsylvania supreme court held that a lower court was without jurisdiction to abrogate a commission rule relating to railroad schedules, where the regulatory impact of the rule had never been visited upon the appellant railroad. *Pennsylvania R. Co. v. Pennsylvania Pub. Utility Commission, 152 A2d 422.*

Exhaustion of Administrative Remedies. A Florida court of appeals held that the doctrine of exhaustion of administrative remedies had no force with respect to a cause of action by an airline against a local port authority for a declaratory decree, injunction, and damages upon allegations that the port authority had charged the airline rates and fees which were unjustly discriminatory. *Northeast Airlines, Inc. v. Weiss et al. 113 So2d 884.*

PAINT CREEK POWER PLANT WEST TEXAS UTILITIES COMPANY *116,000 kw—3 Units*

Power in West Texas . . .

384,000 residents of 166 towns and communities, from Oklahoma to Mexico get their electric power from West Texas Utilities Company. This total service area is larger than the combined areas of seven eastern states and has more than tripled in electrical sales since 1946. This territory is no longer mainly dependent on agriculture and ranching, but is now supported by many commercial and industrial activities. The new 50,000 kw unit placed in service early in 1959 at the Paint Creek Power Plant near Haskell, Texas, will help to supply the growing need for electric power.

FULL COLOR BROCHURE outlining the scope of Sargent & Lundy services will be sent on request.

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Industrial Progress

Tra‹nscontinental Gas Seeks Approval for $51,687,000 Expansion

›ANSCONTINENTAL Gas Pipe ‹ne Corporation has filed an applica‹n with the Federal Power Commis‹n for an estimated $51,687,000 in ‹60 construction.

E. Clyde McGraw, president, said ‹ facilities would increase service by ‹8,823,000 cubic feet daily to 32 ‹isting customers.

If approval is obtained on this and ‹her pending allocations, Mr. Mc‹raw said, total peak day allocations ‹ the company's system will reach ‹423,841,000 cubic feet exclusive of ‹orage and 1,764,293,000 cubic feet ‹cluding storage.

Also included in the expansion ‹ans for next year are $23 million in ‹dditional construction for the pro‹osed transportation of 50 million ‹ubic feet of gas a day to New York.

According to the application, the ‹mpany plans to add 280 miles of ‹ew "big-inch" pipelines parallel to ‹xisting trunk lines, including 211 ‹iles of 36-inch diameter and 69 miles ‹f 30-inch. In most areas, the new ‹loops" will make up a third parallel ‹ne in the company's transmission ‹ystem from the Gulf Coast gas fields ‹o New York City.

‹Economists Lists 10 Top Growth Industries During Next Decade

‹THE history and the future of the ‹United States is one of "dynamic ‹growth" but something new will be ‹added in the years ahead for "change ‹s the keynote of the Sixties," Dr. ‹Pierre A. Rinfret, vice president and ‹director of the Economics Depart‹ment, Lionel D. Edie and Company, ‹Inc., told the National Electrical ‹Manufacturers Association meeting in ‹Atlantic City recently.

Dr. Rinfret prefaced his remarks by saying that the Economics Department of his company—a New York business research firm—had just completed an extensive analysis of the postwar performance of the American economy and of the nation's prospects for the next decade.

The most important conclusions drawn from his company's research into the outlook for the major industries of the United States is that "growth rates are changing: the growth industries of the future are not necessarily the growth industries of the past." In this connection, Dr. Rinfret listed what he considers the present 10 top growth industries. Here they are—"electric utilities, consumer boats, foreign travel, missiles, electronics, office equipment, housing, aluminum, plastics and drugs."

"In the coming decade," Dr. Rinfret said, "we expect that the economy will continue to have recessions, and that in fact the economy will be more vulnerable to economic fluctuations than it has been in the past 13 years.

"The long term growth outlook for the United States is excellent. To the extent, however, that the 1950's were characterized by momentum, the 1960's will be characterized by change. We are in all kinds of changes—changes in the population, changes in the economy, and changes in the growth rates of individual industries."

The economist forecast a gain of about 3½ per cent a year in volume for the American economy during the decade of the Sixties.

Washington Natural Gas Plans Outlays at Rate Above $5 Million a Year

WASHINGTON Natural Gas Company expects capital outlays will run $5 million to $7 million annually for the next five years, Charles M. Sturkey, president, told the New York Society of Security Analysts recently.

He said that the company had spent over $23 million in the past four and a half years and is currently expanding its distribution system at the rate of about $7 million a year. Mr. Sturkey said the increase in outlays began in 1954 in preparation for the introduction of natural gas to customers in 1956.

Mr. Sturkey told the analysts that the natural gas business is booming in the Northwest. He noted that the total of space heating customers had risen from 8,800 in 1952 to 30,100 at the end of June this year.

"In the commercial business, we are picking up just about all of the heating business available and we also find gas for commercial water heating is the most desirable service that the customers can obtain," he said.

Mr. Sturkey said the company now has 2,050 miles of distribution lines to service 64,000 customers and that the utility's gas customers use an average of 3,921 therms of gas a year against the national average of 2,461.

Babcock & Wilcox Annual Report Wins Fourth Consecutive "Oscar"

FOR the fourth consecutive year, The Babcock & Wilcox Company's annual report has been judged the best issued by any concern in the industrial equipment field. The company's achievement was announced recently by *Financial World* magazine, which presented M. Nielsen, B&W president, with a bronze "Oscar of Industry" for the excellence of the big steam generating equipment concern's report for the 1958 fiscal year.

B&W's award-winning report was a magazine-type publication measuring eight and one-half by eleven inches and containing 40 pages including covers, printed in three colors by the letterpress process. It described in de-

(*Continued on page 22*)

tail the operations of the company and its subsidiaries, Bailey Meter Company and Diamond Power Specialty Corporation, through extensive use of full-page photographs, drawings and graphically-arranged financial matter, as well as text.

American Meter Opens New Regulator Factory

AMERICAN Meter Company formally opened a 65,000 square foot addition to the company's plant in Fullerton, California. The new addition, which more than doubles the plant's size, will house all production, customer service, warehousing and research operations of the company's Reliance Regulator Division.

American Meter's Reliance Regulator Division, formerly located in Alhambra, Calif., manufactures gas pressure regulators for commercial, industrial and domestic applications. Established in 1896, Reliance was purchased by American Meter in 1931.

San Diego Gas & Elec. Plans $15,000,000 Unit at South Bay Plant

THE board of directors of the San Diego Gas & Electric Company has authorized the design, purchase, and construction of Unit No. 2 at the utility's new South Bay Power Plant. It will have the same generating capability of 142,000 kilowatts as the first unit which is presently under construction. It is scheduled to be in operation in July, 1962. Work on this second unit will start upon completion of the $22,500,000 first unit which is scheduled to be placed in operation in July, 1960.

Cost of the second unit is estimated at $15,000,000. The $7,500,000 difference in the costs of the two units is due to the fact that some of the facilities provided in Unit No. 1 will also serve Unit No. 2.

Addition of the units will raise the total generating capability of the Company's four power plants to 951,000 kilowatts, a 40 per cent increase over the present generating capability.

Commonwealth Edison Reports New Highs in KWH Sales

COMMONWEALTH Edison Company's kilowatt-hour sales of electricity in the first nine months of 1959 were 11.7 per cent higher than in the same period of 1958, Willis Gale, chairman, informed stockholders recently.

Kilowatt-hour sales to residen[tial,] commercial and industrial custom[ers] in the recent nine months increa[sed] 10.2 per cent, 11 per cent and 14 [per] cent, respectively, over a year ago.

Mr. Gale, in his letter to stockholders, noted that the utility established a new system peak load of 4,233,[000] kilowatts on August 25th, despite [the] steel strike. This was 133,000 k[ilo]watts over last winter's peak and 3[...] 000 kilowatts above the 1958 summ[er] peak.

He said new generating units [on] order or under construction will [in]crease Commonwealth's net gener[at]ing capability to 6,463,000 kilowa[tts] by the end of 1963.

The utility recently announced a [re]vision of its construction program a[nd] now plans to invest $625,000,000 [in] new facilities during the four yea[rs] 1959 through 1962. This is an increa[se] of $65,000,000 over the previous es[ti]mate.

MacDonald of Thomas & Betts Elected President of NEMA

N. J. MacDONALD, of Elizabe[th,] N. J., president of The Thomas [&] Betts Company, was elected preside[nt] of the National Electrical Manufa[c]turers Association at the closing se[s]sion of NEMA's 33rd annual co[n]vention in Atlantic City, New Jerse[y.]

Mr. MacDonald, a vice president [of] the Association, succeeds J. L. Sing[le]ton, of Milwaukee, Wis., senior vi[ce] president, Industries Group, Alli[s]-Chalmers Manufacturing Company.

W. C. Wichman, of Chicago, Il[l.,] vice president of General Electr[ic] Company, and general manager of t[he] company's Hot-point Division, w[as] elected vice president. A. D. [...] Fraser, of Rome, N. Y., president [of] Rome Cable Corporation, was electe[d] treasurer.

The new NEMA president is als[o] chairman of the industry's annual ob[-] servance, National Electrical Wee[k,] and formerly served as chairman [of] the executive committee of the Na[-] tional Wiring Bureau—an industry[-] wide organization interested in fu[r]thering the adequate wiring of home[,] commercial and industrial structures.

C. & P. Tel. Plans $305,000 Improvement Program

THE Board of Directors of Th[e] Chesapeake and Potomac Telephon[e] Company, at its regular monthl[y] meeting on October 29th, approve[d] the expenditure of $305,000 for plan[t] additions and improvements in th[e]

trict of Columbia.

ccording to H. Holmes Vogel, president in charge of the Wash-on Company, this appropriation be used to provide additional facilities in the Congress Heights Georgetown areas and for the in-lation of additional dial equipment he Anacostia dial center.

There were 613,167 telephones in vice in the District of Columbia at end of September, an increase of 328 over the same month last year.

Electric Industry Capacity Expected To be Up 10.3% By End of 1959

E electric power industry in the ited States at the end of 1959 will e total generating capability of 159 lion kilowatts, a gain of 10.3 per t over 1958, according to the 26th mi-Annual Electric Power Survey the Edison Electric Institute.

The survey also forecasts that by end of 1962, capability will total 2 million kilowatts.

Capacity additions for 1959 will ex-d 13½ million kilowatts, second ly to the record for yearly additions in 1958 at 14 million kilowatts.

At present, the industry's expan-n program, including 1959, totals million kilowatts of new capacity.

Electricity production for 1959 is imated at 707 billion kilowatt urs, a gain of 10.3 per cent over 58. The survey predicts a total out-t of more than 878 billion kilowatt-urs for 1962.

Peak load for the United States as whole will reach a high of almost 5 million kilowatts this December, 0 per cent increase over December, 58. According to the Survey fore-st, peak load by December, 1962, ll exceed 153 million kilowatts.

The survey includes both investor-ned systems and those of Federal d non-Federal governmental agen-es, and covers 99 per cent of the ergy output of the electric power stems of the nation.

New Substation First of Kind In PG&E System

EW transmission and substation cilities costing $2,592,000 are near-g completion by Pacific Gas and lectric Company to provide an ad-tional source of power for San Jose d the lower Peninsula.

Describing the project, L. J. Brun-ge, PG&E San Jose Division man-ger, said the new facilities are ex-cted to be in operation in early ecember.

The new $1,687,000 substation is located adjacent to the present Monta Vista Substation three miles west of Cupertino. It is the first in the PG&E system with both all-aluminum wiring and welded aluminum bus bars which distribute the electricity to aluminum conductor transmission lines leading away from the substation. Economical installation of aluminum bus bars is made feasible by advanced techniques of aluminum welding.

Power will enter the substation from a new 220,000-volt transmission line constructed at a cost of $905,000. The 22-mile line will carry power from Metcalf Substation, approximately 12 miles south of San Jose. At Monta Vista, the voltage will be stepped down from 220,000 to 110,-000 volts for transmission over existing lines to San Jose and Peninsula points.

Ebasco Services Cited for Safety Record at Florida Power & Light Installation

THE field staff of Ebasco Services Incorporated at the Fort Myers, Fla. 160,000 kilowatt installation recently completed for the Florida Power & Light Company, has been cited by the Florida Industrial Commission for its perfect safety record, it was announced recently.

In recognition of the Fort Myers staff performance of 340,059 man-hours of work between June 15, 1958 and May 15, 1959 with an unblemished record of no disabling injuries, officials of the Department of Industrial Safety of the Florida Industrial Commissiion formally presented its Certificates of Honor to the Ebasco personnel at the station.

E. S. Crockett, Ebasco construction manager, then formally presented the certificate to Ebasco construction superintendent E. A. Bird for permanent display at the Fort Myers Steam Electric Station.

Consumers Power Connects 500,000th Gas Customer

CONSUMERS POWER COMPANY'S total number of gas customers has passed the half million mark.

"Reports just compiled show that at the end of October we were serving 500,171 gas customers," said President Dan E. Karn.

The company supplies gas service in 300 cities, villages and townships

(*Continued on page* 24)

in 30 Michigan counties. Cities served include Alma, Bay City, Flint, Jackson, Kalamazoo, Lansing, Pontiac, Royal Oak, Saginaw, Warren, Livonia, East Detroit, Mt. Clemens, St. Clair Shores and Plymouth.

"This represents a gain of 100 per cent in number of customers since 1944 and suggests the tremendous growth that has occurred in the southern half of Michigan's Lower Peninsula, especially the Oakland, Macomb and Wayne County area close to Detroit. Use of gas has grown six times as fast as number of customers in the same period, due in part to the popularity of gas for house heating."

Mr. Karn said the company's 500,000th gas customer probably was connected during the latter part of October.

The company still has a waiting list of more than 100,000 applicants for gas space heating, although this type of service already has been extended to 53 per cent of the more than 500,000 gas customers.

Consumers also supplies electric service to 860,000 customers in 61 Lower Peninsula counties.

New Low Cost Coal Dust And Fly-Ash Control Syste

THE DEYNOR "wet water" control system for utility and po plants is a new, simple, inexpens and effective method for control coal dust, from the point of unlo ing until it reaches the bunkers, "wetting" and agglomerating the before it becomes airborne, accord to an announcement by the manuf turer. This system is said to s thousands of dollars on initial cos

The announcement states that Deynor system consists of a Wet W ter Mixer (automatic proportione some valves, spray nozzles, one-i piping and a supply of Veriwet " water" Cartridges. No pumps, mot or storage tanks are required. T Wet Water Mixer operates on plant water system and is reported give effective dust control at less t 1¢ of ton of coal handled.

A four-page brochure describ the system (Deynor Data #66 with a blue print of a typical insta tion, will be mailed on request to D nor Corporation, 1 Depot Plaza, M maroneck, New York.

Million-Dollar High Voltage Testing Laboratory Goes To Work At G-E Switchgear Development Center

A MILLION-DOLLAR High Vo age Testing Laboratory, most a vanced of its kind in the world a capable of generating up to 3,000,0 volts for impulse testing and 1,00 000 volts for indoor or outdoor 6 cycle tests has been opened by Ge eral Electric in Philadelphia.

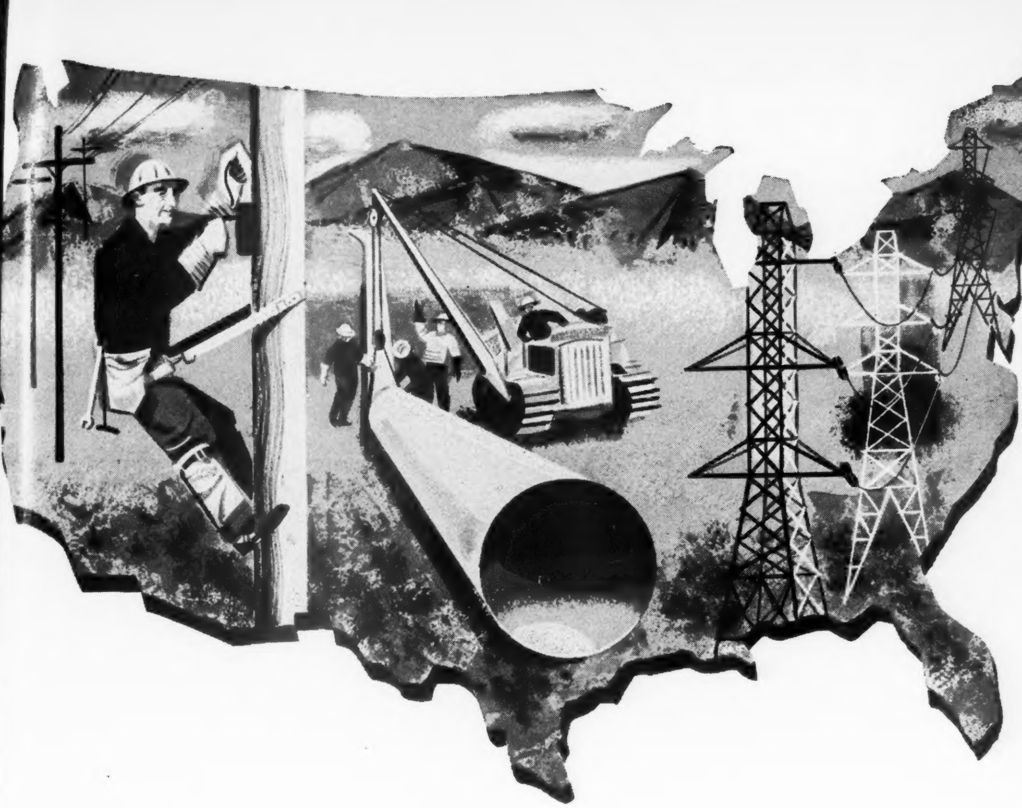
The new laboratory is the latest a dition to the company's $12,000,0 Switchgear Development Cent dedicated in 1952.

Now, for the first time, enginee will be able to simulate the effects lightning striking a power system the instant high voltage power circ breakers are operating to clear sho circuits.

On power systems which exper ence severe lightning storms it is n uncommon for one or more lightnin surges to reach the breaker during i opening operation.

Although failure of circuit breake because of this condition has bee rare, unless they are designed to wit stand this additional electrical shoc expensive equipment can be wrecke and power lost completely.

(*Continued on page 26*)



Breakers now being developed for the future's ultra-high-voltages will be vulnerable to even more of this multi-shock phenomenon, because of the necessary higher, longer and more exposed transmission lines.

There is no industry requirement for testing the ability of circuit breakers to meet this condition of lightning hitting immediately following the interrupting cycle. This is at least partly true because so little is known of the phenomenon itself.

"In fact," says V. L. Cox, manager of General Electric Switchgear Laboratories Department, "there is a far greater body of knowledge available today on the solutions for reaching outer space than exists on the causitives of lightning and its effects on our power systems."

Total facilities now in place at the Switchgear Development Center will enable testing of all power breakers rated through 690 kilovolts. The new high voltage laboratory has played a key role in the development of the present-day air blast circuit breaker. After the prototype was developed, the first production breaker from the shop floor was run through the complete series of tests at the lab as a final check.

A key element in the new test center is a synchronous timer that permits engineers to consolidate control of the impulse generator and the high voltage power transformer in the heavy current generating section of the high yard.

As circuit breakers open on 60-cycle fault current, the new timing circuit will allow the impulse generator to be triggered at a predetermimed time point—within milliseconds—either during or after interruption.

Since circuit breakers in addition to other functions are designed to interrupt lightning-caused short circuits of 60-cycle nature, this test will give a true simulation of actual multi-stroke conditions, in a laboratory situation that could not be duplicated in a power system.

Since precise intervals of impulse can be governed, experiments will be carried out under the pure laboratory conditions with engineers in control and complete measurement of various phases of an experiment can be provided.

Another part of the new building will house "wet-test" equipment for simulating rain and moisture conditions under which breakers will be called upon to operate. A blending tank will combine Philadelphia tap water with a concentrate to provide the desired resistivity for the required test.

Wet-testing is expected to give further information concerning flashover effects on insulators and insulating materials, as well as to give practical conditions in testing circuit breaker operation under rain conditions.

Other test conditions to be set up in the lab include three phase heat runs up to 10,000 amperes; synthetic capacitance switching; and mechanical operating tests.

The Switchgear Development Center's testing facilities have been used by many General Electric product departments since the Center was opened. Considerable development in metal-clad switching and relaying, as well as in the high voltage air blast power circuit breakers has taken place as a result of the facility's existence.

Tindall Heads Transformer Sales at Delta-Star

HOWARD D. TINDALL has joined Delta-Star Electric Division, H. K. Porter Company, Inc. as manager of transformer sales and eningeering. His headquarters are in the Division's Electric Service Works at 17th & Cambria streets in Philadelphia.

Mr. Tindall was formerly manager of small power transformer sales for the Pennsylvania Transformer Company. Previous to that he held the positions of vice president and general manager with Gardner Electric Mfg. Company; vice president and assistant chief engineer, Moloney Electric Company; transformer design engineer, Wagner Electric Company; and commercial engineer, Emerson Electric Company.

Coffin Heads New Structural Division of ALCOA

PHILIP T. COFFIN has been appointed general manager of a newly established structural division of Aluminum Company of America.

Simultaneous announcement of the creation of the division and of Mr. Coffin's appointment was made by F. J. Close, Alcoa vice president in charge of sales development and industry sales. Included in the responsibilities of the new division, Mr. Close said, will be the design, engineering, sale, and promotion of aluminum in the rapidly developing structural field.

"The new activity recognizes the growing importance of aluminum in the structural field, including such applications as electric power transmission towers and crossarms, utility substations, antenna bases, buildings and bridges," Mr. Close said. "Among its activities, the new division will coordinate Alcoa's research and development activities related to the structural field."

Mr. Coffin has headed Alcoa's electrical industry sales effort since 1[illegible] as manager of electrical conductor sales and, since 1955, as manager of electrical industry sales. He began Alcoa service in 1926, in the electrical field, at Alcoa's New York office.

New Tower Line Announced By Motorola

A COMPLETE line of high strength tubular alloy steel communication towers, providing structures ranging from 10 to 500 feet in height, is now available from Motorola Communications & Electronics, Inc. All towers meet or surpass Electronic Industries Association windloading and other standards.

The towers are of three-sided sectional design. The sections are 10 [illegible] 20 feet long and in four weights. The heaviest towers can be raised to [illegible] feet with 30 pounds per square foot windloading, or up to 360 feet with 40 pounds per square foot windloading. Guys are specified for the towers that are more than 100 feet high in the heaviest models, and for lesser heights in the lighter models.

Motorola has available a complete installation and maintenance program with the new line. A network of strategically located installation and maintenance crews has been established throughout the country.

One to five year maintenance contracts are available. All towers, including erection, when specified, are backed by a five year Motorola warranty.

Highway Names Utility Head To Spark Division's Growth

D. V. WEDEMAN has been appointed general sales manager of the Utility Division of Highway Trailer Company, it has been announced. He was formerly general sales manager of Maytag East Coast Company, Jacksonville, Florida.

Mr. Wedeman's appointment is in line with Highway's new program to expand and accelerate the growth of the Utility Division, according to David B. Charnay, chairman of the board of Highway, who made the announcement.

,000-Kva Transformer Completed, Shipped In Three Days to Fill Emergency Order

LY three days after an emergency order was re-ved from the Utah Power and Light Company, Gen-l Electric's medium transformer department com-ted and shipped a 5,000-kva power transformer for in a Salt Lake City substation.

The high degree of standardization in repetitive-nufacture medium transformers made it possible, ac-ding to General Electric engineers, for the Rome, , plant to assemble and ship the unit in such a short e.

The emergency arose when a 5,000-kva transformer s damaged at the installation site. A hoisting cable, ged by a local rigging firm, broke and the 20-ton trans-mer crashed three feet to its side on the concrete pad.

Initial damage was obvious. Replacements were need-for the high-voltage bushings, pressure relief device, d manhole cover. These parts were immediately pped from Rome. However, the possibility of in-nal damage required a thorough examination of the ernal structure.

Because of this, Utah Power and Light officials de-ded to order a duplicate unit, feeling that it might rive before the original could be repaired. Their fore-ht paid off when the new transformer was shipped om Rome only five days after the accident and three ys after the order was placed.

Meanwhile, a thorough examination of the damaged nsformer indicated that, in spite of the fall, the ly damage was to external fittings. The core and ndings remained intact. The unit will be installed by e utility when repairs are completed at General Elec-c's Salt Lake City Apparatus Service Shop.

R-R Announces World's Fastest Electronic Computer System

HE availability of the world's fastest and most ad-nced electronic computer system for business and ientific use has been announced by the Remington and Univac Division, Sperry Rand Corporation.

The new system, known as the Univac Larc Solid-tate Computer, is a large-scale, "solid-state" digital mputing system which can operate at speeds up to 00 times faster than any computer in existence today. t was originally designed and constructed by Reming-on Rand for the Atomic Energy Commission for their se at Livermore, Calif.

Designed with the help of another Univac computer meet the exacting specifications of the A. E. C., the ew system is geared to handle a range of variables xtending from the tracking of a missile to the prepara-ion of a company's payroll.

The Univac Larc, according to Remington Rand, an perform 250,000 additions or subtractions of 12-igit decimal numbers per second. It will enable busi-ess management to process problems 25 to 200 times aster than on existing computers. The rate of speed ill depend on the problems being run.

The new computer will sell at upwards of six million ollars, and will rent from $135,000 a month. In terms f actual expenditure, the Univac Larc will cost ap-preciably less per operation than any other computer n the market, the company said.

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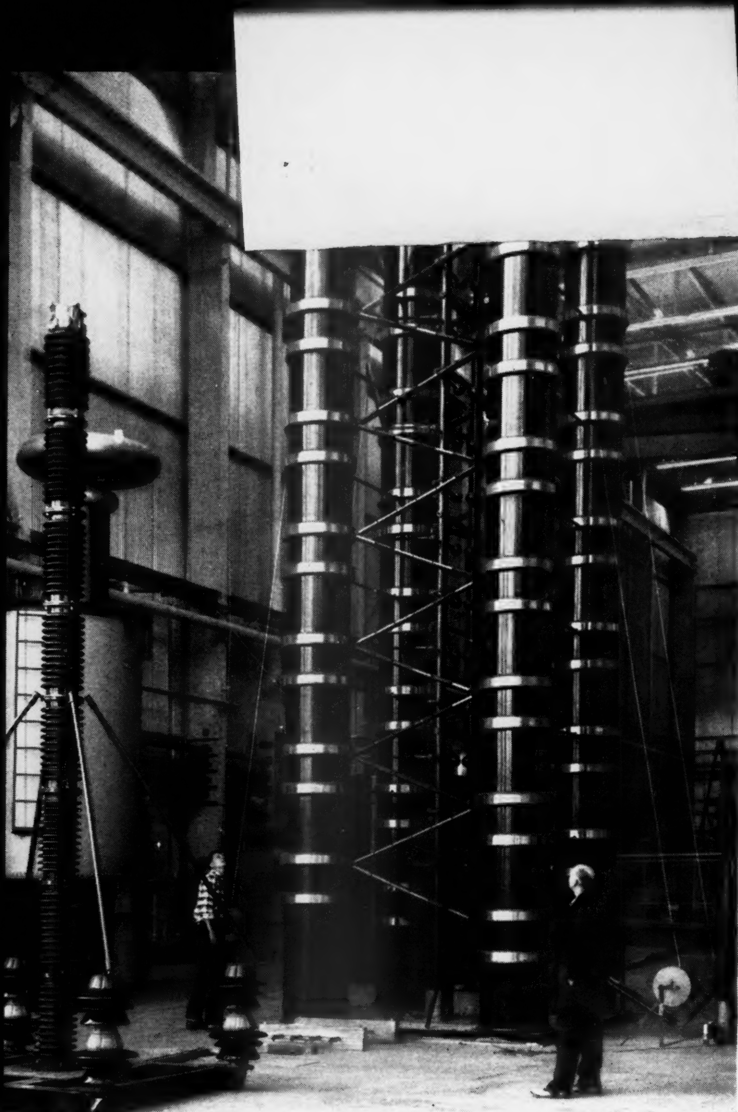

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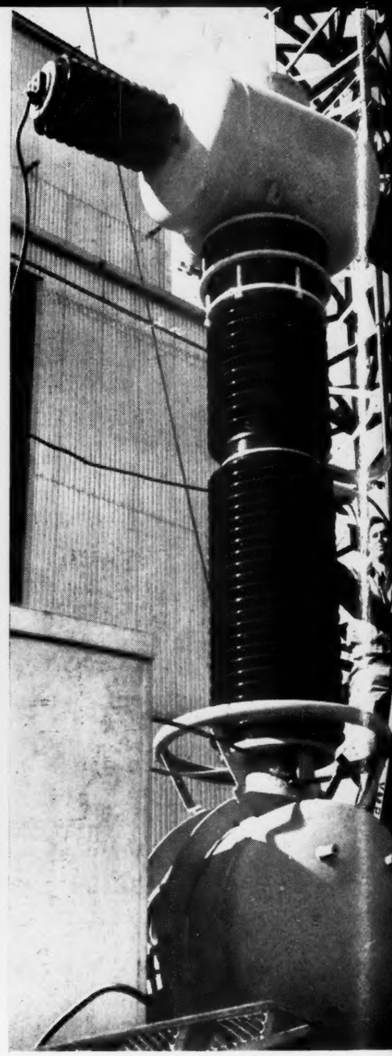

THIS AIR-BLAST TRANSMISSION BREAKER is being prepared for a power/impulse test.

AT GENERAL ELECTRIC'S NEW HIGH VOLTAGE TESTING LABORATORY IN PHILADELPHIA ...

Nature Comes Indoors

Effects of lightning and rain on power systems being studied in new research facility.

The latest addition to General Electric's Switchgear Development Center in Philadephia is a million-dollar high voltage testing laboratory.

Heart of the new test center is a three million-volt impulse generator which can be set off by a synchronous timer at the exact moment a high voltage power circuit breaker is operating to clear a short circuit. Now, for the first time, General Electric engineers will be able to duplicate the situation in which lightning strikes a transmission system at the instant circuit breakers are opening. It's important that the circuit breakers of the future be designed to withstand such multi-shock conditions. The reason for this is seen in the higher, longer, and more exposed transmission lines required to carry tomorrow's ultra-high voltages.

A WET-TEST DEVICE, which simulates the effects of rain and moisture on switchgear components, is another feature of the new facility. Impulse testing will provide important information about the results of flashover on insulators and insulating materials.

Power transmission systems of the future will be even more reliable as a result of this new investment in high voltage testing facilities. For more information, contact your local G-E Apparatus Sales Office. 3C 412A

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